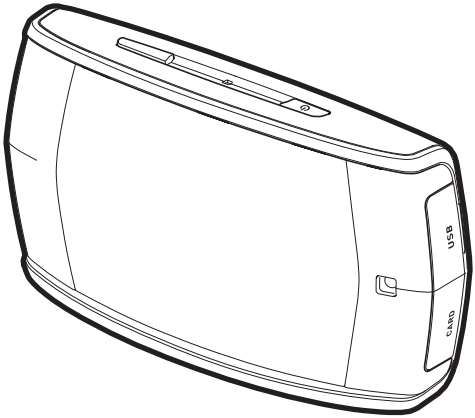
CASIO

EN

Digital Camera

EX-MR1

User's Guide



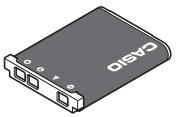
Thank you for purchasing this CASIO product.

- Before using it, be sure to read the precautions contained in this User's Guide.
- Keep the User's Guide in a safe place for future reference.
- For the most up-to-date information about this product, visit the official EXILIM Website at http://www.exilim.com/

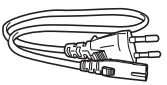
EXILIM

Accessories

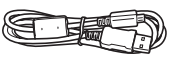
As you unpack your camera, check to make sure that all accessories shown below are included. If anything is missing, contact your original retailer.



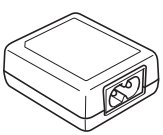
Rechargeable lithium ion battery (NP-80)



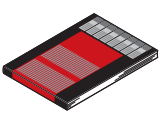
Power cord*



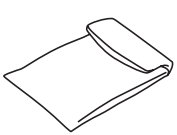
Micro USB cable



USB-AC adaptor (AD-C53U)



Basic Reference



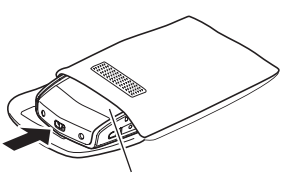
Soft case

Using the Soft Case

When not in use, store the camera in its soft case.

IMPORTANT!

- Use the soft case for storage of this camera only.



The mirror side facing upwards

Main materials
Front side: Velvet
Inside: Polyester pile

* The shape of the power cord plug varies according to the country or geographic area where the camera is sold.

Read this first!

- The contents of this manual are subject to change without notice.
- The contents of this manual have been checked at each step of the production process. Feel free to contact us if you notice anything that is questionable, erroneous, etc.
- Any copying of the contents of this User's Guide, either in part or its entirety, is forbidden. Except for your own personal use, any other use of the contents of this manual without the permission of CASIO COMPUTER CO., LTD. is forbidden under copyright laws.
- CASIO COMPUTER CO., LTD. shall not be held liable for any damages or lost profits suffered by you or any third party due to the use or malfunction of this product.
- CASIO COMPUTER CO., LTD. shall not be held liable for any damages or lost profits caused by loss of memory contents due to malfunction, repair, or any other reason.
- Note that the example screens and product illustrations shown in this User's Guide may differ somewhat from the screens and configuration of the actual camera.

LCD Panel

The liquid crystal panel of the monitor screen uses high-precision technology that provides a pixel yield in excess of 99.99%. This means that some very small number of pixels may not light or may remain lit at all times. This is due to the characteristics of the liquid crystal panel, and does not indicate malfunction.

Take a few test shots

Before shooting your final image, shoot a test shot to ensure that the camera is recording correctly.

Contents

Accessories 2
Read this first! 3
General Guide 8
Monitor Screen Contents and How to Change Them 9

Quick Start Basics 12

What you can do with your CASIO camera 12
Using the Mirror to Shoot a Self-portrait 14
First, charge the battery prior to use. 16
- To load the battery 16
- Charge the Battery 17

Configuring Basic Settings the First Time You Turn On the Camera 22
Preparing a Memory Card 23
- Supported Memory Cards 23
- To load a memory card 24
- To format (initialize) a new memory card 25

Turning the Camera On and Off 26
Shooting a Snapshot 27
- To select an auto recording mode 27
- To shoot a snapshot 28

Viewing Snapshots 31
Deleting Snapshots and Movies 32
Snapshot Shooting Precautions 34

Snapshot Tutorial 35

Using the Control Panel 35
Shooting with Artistic Effects . . . . . (ART SHOT) . . 36
Using BEST SHOT 38
Using LED Light . . . . . (LED) . . 40
Using the Self-timer . . . . . (Self-timer) . . 41
Shooting and Playing back Images without Disturbing Others . . . . (Silent) . . 42
Recording Beautiful Portraits . . . . . (Make-up) . . 43
Shooting with Zoom 44

Recording Movie Images 45

To record a movie 45

Advanced Settings 47

Using On-screen Menus 47
REC Mode Settings . . . . . (REC) . . 49
- Selecting a Focus Mode . . . . . (Focus) . . . 49
- Using Face Detection . . . . . (Face Detection) . . . 50
- Using Continuous Shutter . . . . . (CS) . . . 51
- Reducing the Effects of Camera and Subject Movement . . . . (Anti Shake) . . . 52
- Assigning Functions to the [◀] and [▶] Keys . . . . . (L/R Key) . . . 53
- Displaying the On-screen Grid . . . . . (Grid) . . . 53
- Turning on Image Review . . . . . (Review) . . . 54
- Using Icon Help . . . . . (Icon Help) . . . 54
- Selecting Display Information . . . . . (Information) . . . 54

Image Quality Settings . . . . . (Quality) . . 55
- To select the snapshot image size . . . . . (Size) . . . 55
- Specifying Movie Image Quality . . . . . (Quality (Movie)) . . . 56
- Correcting Image Brightness . . . . . (EV Shift) . . . 56
- Controlling White Balance . . . . . (White Balance) . . . 57
- Specifying ISO Sensitivity . . . . . (ISO) . . . 59
- Optimizing Image Brightness . . . . . (Lighting) . . . 60
- Using Built-in Color Filters . . . . . (Color Filter) . . . 60

Viewing Snapshots and Movies 61

Viewing Snapshots 61
Viewing a Movie. 61
Zooming an On-screen Snapshot 62
Displaying the Image Menu 62

Other Playback Functions (PLAY) 63

Using the PLAY Panel 63
Performing Playback without Disturbing Others . . . . . (Silent) . . 64
Playing a Slideshow on the Camera . . . . . (Slideshow) . . 64
Inserting a Built-in Subject into a Snapshot . . . . . (Paste subject) . . 65
Blurring a Playback Image . . . . . (Blur Effect) . . 66
Auto Image Orientation Detection and Rotation . . . . . (Auto Rotate) . . 66
Rotating an Image . . . . . (Rotation) . . 67
Selecting Images for Printing . . . . . (DPOF Printing) . . 67
Protecting a File Against Deletion . . . . . (Protect) . . 68
Resizing a Snapshot . . . . . (Resize) . . 68
Cropping a Snapshot . . . . . (Trimming) . . 69
Copying Files . . . . . (Copy) . . 70
Selecting Display Information . . . . . (Information) . . 70

Connecting the Camera with a Smartphone (Wireless LAN) 71

Establishing a Connection between a Smartphone and Your Camera 71
- Installing the EXILIM Link App on Your Smartphone 72
- Sending a Snapshot or Movie File from Camera Memory to a Smartphone . . . 72

Resizing Snapshots before Sending Them to a Smartphone . . . . . (Resize before send) . . 74

Printing 75

Printing Snapshots. 75
Using DPOF to Specify Images to be Printed and the Number of Copies. . . . 75

Using the Camera with a Computer 78

Things you can do using a computer... 78
Using the Camera with a Windows Computer 79
- Viewing and Storing Images on a Computer. 79
- Playing Movies 82

Using the Camera with a Macintosh 83
- Connecting the Camera to Your Computer and Saving Files 83
- Playing a Movie. 85

Files and Folders 86
Memory Card Data 87

Other Settings (Set Up) 88

Changing the Menu Screen Color . . . . . (Menu Color) . . 88
Resizing Snapshots before Sending Them to a Smartphone . . . . . (Resize before send) . . 88
Changing the Camera Password for Wireless LAN Connection . . . . . (WLAN password) . . 88
Configuring Camera Sound Settings . . . . . (Sounds) . . 89
Configuring a Startup Image . . . . . (Startup) . . 89
Specifying the File Name Serial Number Generation Rule . . . . . (File No.) . . 90
Configuring World Time Settings . . . . . (World Time) . . 90
Time Stamping Snapshots . . . . . (Timestamp) . . 91
Setting the Camera's Clock . . . . . (Adjust) . . 92
Specifying the Date Style . . . . . (Date Style) . . 92
Specifying the Display Language . . . . . (Language) . . 93
Configuring Sleep State Settings . . . . . (Sleep) . . 93
Configuring Auto Power Settings . . . . . (Auto Power Off) . . 94
Configuring [▶] Setting . . . . . (PLAY) . . 94
Formatting Built-in Memory or a Memory Card . . . . . (Format) . . 95
Resetting the Camera to Factory Defaults . . . . . (Reset) . . 95

Appendix 96

Safety Precautions 96
Precautions During Use 104
Power Supply 110
- Charging 110
- Battery Precautions 110
- Using the Camera in another Country 111

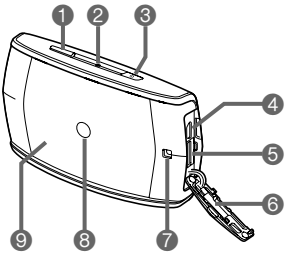
Using a Memory Card 111
Reset Initial Default Settings 112
When things don't go right... 114
- Troubleshooting 114
- Display Messages 119

Number of Snapshots/Movie Recording Time 121
Specifications 122

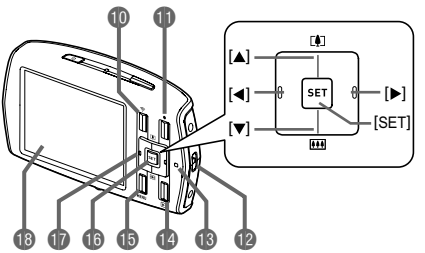
General Guide

The numbers in parentheses indicate the pages where each item is explained.

Front

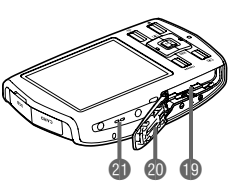


Back



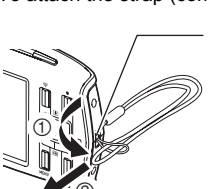
1. Shutter button (page 28)
2. Microphone (page 46)
3. [⏻] (Power) (page 26)
4. USB port (pages 17, 19)
5. Memory card slot (page 24)
6. [CARD USB] cover
7. LED light (page 40)
8. Lens
   Lens is inside the mirror surface.
9. Mirror (page 14)
10. [Wi-Fi] (Wi-Fi) button (page 72)
11. [●] (Movie) button (page 45)
12. Strap hole (page 8)
13. Back lamp (pages 18, 20)
14. [▶] (PLAY) button (pages 26, 31)
15. [MENU] button (page 47)
16. [SET] button (page 35)
17. Control button ([▲] [▼] [◀] [▶]) (pages 35, 47, 63)
18. Monitor screen (page 9)

Bottom



19. Battery slot (page 16)
20. Battery cover
21. Speaker

To attach the strap (commercially available) to the camera

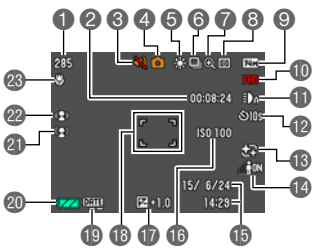


Monitor Screen Contents and How to Change Them

The monitor screen uses various indicators, icons, and values to keep you informed of the camera's status.

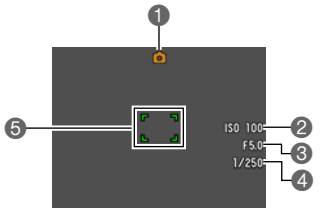
- The sample screens in this section are intended to show you the locations of all the indicators and figures that can appear on the monitor screen in various modes. They do not represent screens that actually appear on the camera.

■ Snapshot Recording



1. Remaining snapshot memory capacity (page 121)
2. Remaining movie memory capacity (page 45)
3. Silent mode (page 42)
4. Recording mode (page 27)
5. White balance (page 57)
6. Continuous shutter (page 51)
7. Image deterioration indicator (page 44)
8. Metering mode (page 122)
9. Snapshot image size (page 55)
10. Movie image quality (page 56)
11. LED light (page 40)
12. Self-timer (page 41)
13. Make-up (page 43)
14. Lighting (page 60)
15. Date/time (page 92)
16. ISO sensitivity (page 59)
17. Exposure compensation (page 56)
18. Focus frame (pages 29, 49)
19. Timestamp indicator (page 91)
20. Battery level indicator (page 21)
21. Face Detection (page 50)
22. Anti Shake (page 52)
23. Focus mode (page 49)

■ Shutter Button Half-pressed

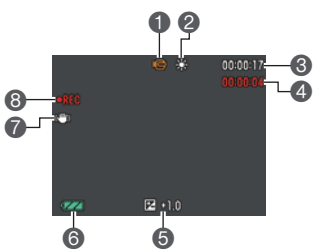


1. Recording mode (page 27)
2. ISO sensitivity (page 59)
3. Aperture value
4. Shutter speed
5. Focus frame (pages 29, 49)

NOTE

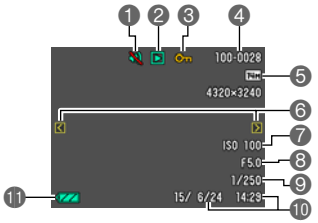
- Depending on recording settings, the aperture, shutter speed, and ISO sensitivity values may not appear on the monitor screen. These values will be orange if the Auto Exposure (AE) is not correct for some reason.

■ Movie Recording



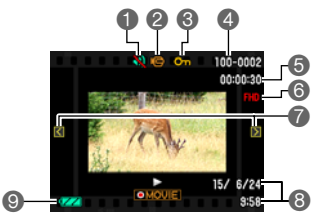
1. Recording mode (page 45)
2. White balance (page 57)
3. Remaining movie memory capacity (page 45)
4. Movie recording time (page 45)
5. Exposure compensation (page 56)
6. Battery level indicator (page 21)
7. Anti Shake (page 52)
8. Movie recording in progress (page 45)

■ Snapshot Viewing



1. Silent mode (page 64)
2. File type
3. Protect indicator (page 68)
4. Folder name/file name (page 86)
5. Snapshot image size (page 55)
6. Currently supported control button (page 8) operations.
7. ISO sensitivity (page 59)
8. Aperture value
9. Shutter speed
10. Date/time (page 92)
11. Battery level indicator (page 21)

■ Movie Playback

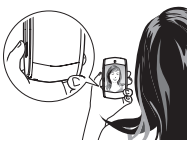


1. Silent mode (page 64)
2. File type
3. Protect indicator (page 68)
4. Folder name/file name (page 86)
5. Movie recording time (page 45)
6. Movie image quality (page 56)
7. Currently supported control button (page 8) operations.
8. Date/time (page 92)
9. Battery level indicator (page 21)

Quick Start Basics

What you can do with your CASIO camera

Your CASIO camera is packed with a powerful selection of features and functions to make recording of digital images easier, including the following main functions.



Simple self-shooting

Shoot self-portraits as you compose using the camera's front mirror.

→See page **14** for more information.

Premium Auto

Select Premium Auto recording and the camera automatically determines whether you are shooting a subject or scenery, and other conditions. Premium Auto delivers higher image quality than standard Auto.

→See page **27** for more information.

Make-up Function

The Make-up Function smoothes the skin texture of the subject and softens facial shadows caused by harsh sunlight for better looking portraits.

→See page **43** for more information.

ART SHOT

A variety of artistic effects help to make even common, ordinary subjects become more novel and exciting.

→See page **36** for more information.

Silent

The Silent mode disables LED light operation, mutes camera operation tones, and changes other settings to help ensure that shooting does not bother others around you.

→See pages **42, 64** for more information.

BEST SHOT

Simply select the sample scene you want and the camera sets up automatically. Then all you need to do is press the shutter button for perfect images.

→See page **38** for more information.

Paste subject

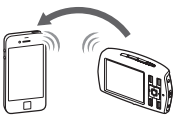
A simple operations embeds stars, hearts and other graphic symbols into a photograph. Frames can also be added.

→See page **65** for more information.

Art Effect

Apply art effects to images you shoot.

→See page **63** for more information.



Wireless LAN Connection

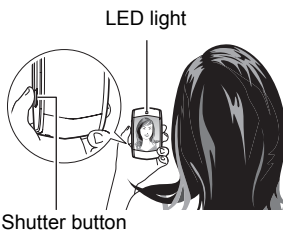
Images shot with the camera can be sent to a smartphone.

→See page **71** for more information.

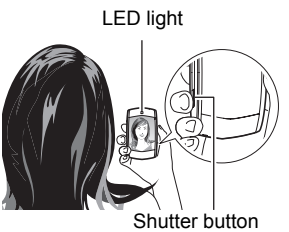
Using the Mirror to Shoot a Self-portrait

The front of the camera is a mirror, which make it easy to compose images even when shooting a self-portrait. When shooting, hold the camera so the LED light is at the top.

Holding with the left hand

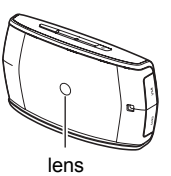


Holding with the right hand



■ Precautions when shooting a self-portrait

- Depending on the shooting distance, the range of the image being reflected by the mirror may be different from the range of the image that will actually be shot by the camera. It is recommended that you check images by displaying them on the monitor screen after shooting them.

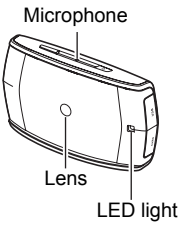


■ Mirror Precautions

- The lens is approximately in the center of the mirror. Dirt in the area of the lens can cause unwanted marks in recorded images.
- Do not scratch, press, or strike the mirror with strong force. Doing so can scratch or soil the mirror.
- Damage or soiling in the center of the mirror (lens area) can interfere with proper operation of the camera.
- Affixing protective film to the center (lens area) of the mirror can affect image quality and interfere with proper operation of the camera.
- When shooting in a sunny area, the mirror will reflect sunlight. This creates the risk of eye problems. Take care to avoid allowing sunlight to shine onto the mirror.

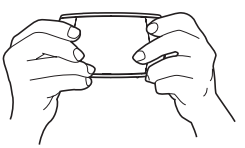
NOTE

- The mirror has a curved surface, so there may be some distortion in the reflected image. This does not affect recorded images.
- When shooting hold the camera still. Carefully press the shutter button and take care to avoid all movement as the shutter releases and for a few moments after it releases.
- Take care that your fingers and the strap do not cover any of the areas indicated in the illustration.
- To protect against accidentally dropping the camera, attach the wrist strap (commercially available or separately available) and make sure it is around your fingers or wrist while you are operating the camera.
- Never swing the camera around by its strap.



IMPORTANT!

- Take care to ensure that your fingers are not blocking or is not too close to the LED light as shown in the nearby illustration. Fingers can cause unwanted shadows when shooting.



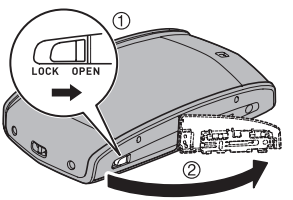
First, charge the battery prior to use.

Note that the battery of a newly purchased camera is not charged. Perform the steps below to load the battery into the camera and charge it.

- Your camera requires a special CASIO rechargeable lithium ion battery (NP-80) for power. Never try to use any other type of battery.

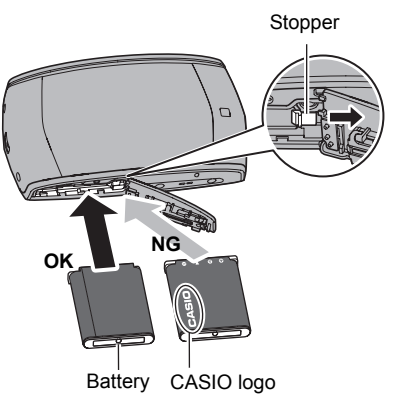
To load the battery

1. **Open the battery cover.**

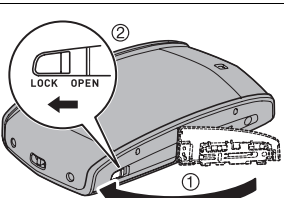


2. **Load the battery.**

With the CASIO logo on the battery facing downwards (in the direction of the monitor screen), hold the stopper next to the battery in the direction indicated by the arrow as you slide the battery into the camera. Press the battery in until the stopper secures it in place.



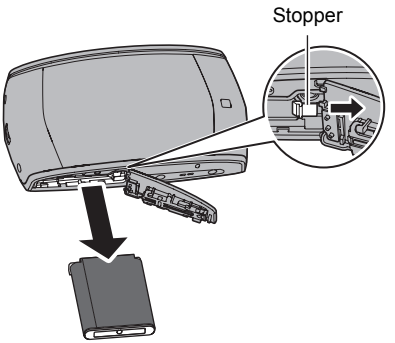
3. **Close the battery cover.**



To replace the battery

1. **Open the battery cover and remove the current battery.**

2. **Load a new battery.**

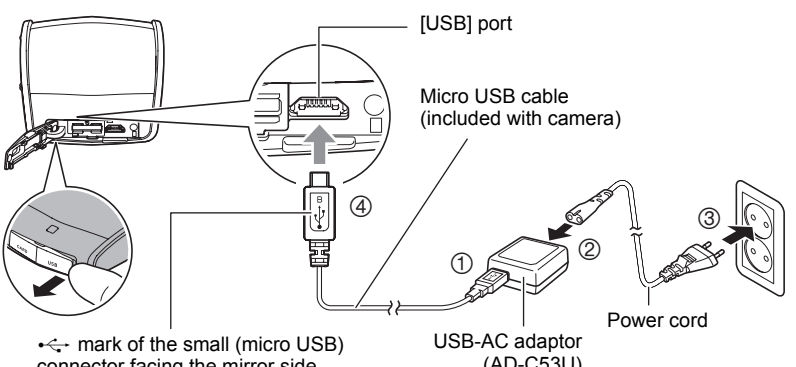


Charge the Battery

You can use either of the two following methods to charge the camera's battery.
- USB-AC adaptor
- USB connection to a computer

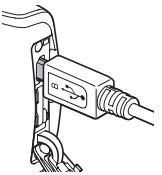
■ To charge with the USB-AC adaptor

The adaptor lets you charge the battery while it is loaded in the camera.
While the camera is turned off, connect in the sequence shown below.
Charging time: Approximately 150 minutes



- When disconnecting the USB-AC adaptor from the camera, be sure to disconnect from the camera first.

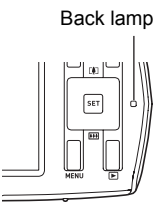
IMPORTANT!



- Make sure that you insert the cable connector into the USB port until you feel it click securely into place. Failure to insert the connector fully can result in poor communication or malfunction.
- Note that even while the connector is fully inserted, you still will be able to see the metal part of the connector as shown in the illustration.
- Pressing [⏻] (Power) while the USB-AC adaptor is connected to the camera will turn on the camera. Because of this, charging will stop.
- The USB-AC adaptor will become warm during charging. This is normal and does not indicate malfunction.
- The shape of the power plug depends on each country or geographic area.

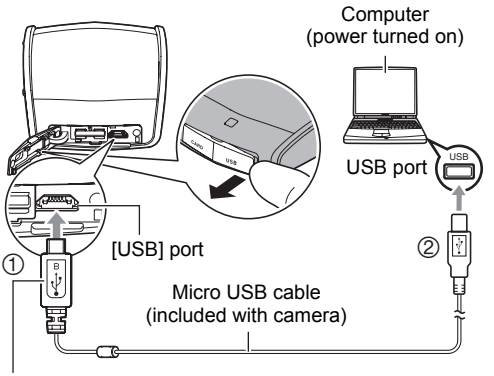
Back Lamp Operation

Lamp Status	Description
Lit Red	Charging
Flashing Red	Abnormal ambient temperature, USB-AC adaptor problem, or battery problem (page 110)
Off	Charging complete



■ To charge using a USB connection to a computer

USB connection lets you charge the battery while it is loaded in the camera.
While the camera is turned off, connect in the sequence shown below (①, ②). If the camera is on, press [⏻] (Power) to turn it off before connecting it to your computer.
Charging time: Approximately 150 minutes



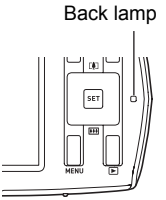
•⇠ mark of the small (micro USB) connector facing the mirror side.

IMPORTANT!

- The first time you connect the camera to your computer with the USB cable, an error message may appear on your computer. If this happens, disconnect and then reconnect the USB cable.
- Depending on the setup of your computer, you may not be able to charge the camera's battery over a USB connection. If this happens, use of the USB-AC adaptor that comes with the camera is recommended.
- Charging is not performed while the connected computer is in the hibernate mode.

Back Lamp Operation

Lamp Status	Description
Lit Red, (Lit/Flashing Amber)	Charging
Flashing Red	Abnormal ambient temperature, charging taking abnormally long, or battery problem (page 110)
Off, (Lit Green)	Charging complete



- The information in parentheses in the above table shows the lamp status while the camera is turned on during charging.

Other Charging Precautions

- With the two charging methods described above, you can charge the camera's battery (NP-80) without removing it from the camera. You also can charge the battery using an optionally available charger unit (BC-80L). Never use any other type of charger device. Attempting to use a different charger can result in unexpected accident.
- USB charging devices and power supply devices are subject to fixed standards. Use of an inferior device or a device that is not up to standard can cause malfunction and/or failure of your camera.
- Operation is not guaranteed in the case of a computer built or modified by you. Even in the case of a commercially available computer, certain USB port specifications may make it impossible to charge via the USB cable.
- A battery that is still warm due to normal use may not charge fully. Give the battery time to cool before charging it.
- A battery discharges slightly even when it is not loaded in the camera. Because of this, it is recommended that you charge the battery immediately before you need to use it.
- Charging the camera's battery may cause interference with TV and radio reception. If this happens, plug the charger into an outlet that is further away from the TV or radio.
- Actual charging time depends on current battery capacity and charging conditions.
- Do not use the USB-AC adaptor with any other device.
- Never use the power cord with another device.
- Use only the USB-AC adaptor and USB cable specified in this manual for charging. Use of any other type of devices may result in improper charging.

Checking Remaining Battery Power

As battery power is consumed, a battery indicator on the monitor screen indicates remaining power as shown below.

Remaining Power	High ← → Low			
Battery Indicator	→	→	→	
Indicator Color	Cyan →	Amber →	Red →	Red

indicates battery power is low. Charge the battery as soon as possible. Recording is not possible when is indicated. Charge the battery immediately.

- The level shown by the battery indicator may change when you switch between the REC mode and PLAY mode.
- Leaving the camera for about 30 days with no power supplied while the battery is dead will cause its date and time settings to be cleared. A message telling you to configure time and date settings will appear the next time you turn on the camera after restoring power. When this happens, configure date and time settings (page 92).
- See page 124 for information about battery life and number of shots.

Battery Power Conservation Tips

- Enable the Auto Power Off and the Sleep features to protect against wasting battery power when you forget to turn off the camera (pages 93, 94).

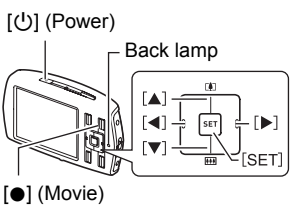
Configuring Basic Settings the First Time You Turn On the Camera

The first time you load a battery into the camera, a screen appears for configuring the display language, date, and time settings. Failure to set the date and time correctly will cause the wrong date and time data to be recorded with images.

IMPORTANT!

- A screen for language selection will not appear in step 2 of the procedure below if you purchased a camera intended for the Japanese market. To change the display language from Japanese in this case, use the procedure under “Specifying the Display Language (Language)” (page 93). Note that a version of this manual in the language you select may not be included with a camera intended for the Japanese market.
- Camera models sold in certain geographic areas may not support display language selection.

1. **Hold down [⏻] (Power) until the back lamp lights green momentarily.**



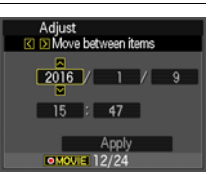
2. **Use [▲], [▼], [◀], and [▶] to select the language you want and then press [SET].**

3. **Use [▲] and [▼] to select a date style and then press [SET].**

Example: July, 10, 2016
YY/MM/DD → 16/7/10
DD/MM/YY → 10/7/16
MM/DD/YY → 7/10/16

4. **Set the date and time.**

Use [◀] and [▶] to select the setting you want to change and then use [▲] and [▼] to change it.
To switch between 12-hour and 24-hour format, press [●] (Movie).



5. **After setting the date and time, use [◀] and [▶] to select “Apply” and then press [SET].**

If you make a mistake configuring display language, date, or time settings with the above procedure, refer to the following pages for information about how to correct the settings.
– Display language: Page 93
– Date and time: Page 92

NOTE

- Each country controls its local time offset and the use of summer time, and so they are subject to change.
- Removing the battery from the camera too soon after configuring time and date settings for the first time can cause the settings to be reset to their factory defaults. Do not remove the battery for at least 24 hours after configuring settings.

Preparing a Memory Card

Though the camera has built-in memory that can be used to store images and movies, you probably will want to purchase a commercially available memory card for greater capacity. The camera does not come with a memory card. Images recorded while a memory card is loaded are saved to the memory card. When no memory card is loaded, images are saved to built-in memory.
- For information about memory card capacities, see page 121.

Supported Memory Cards

– microSD Memory Card
– microSDHC Memory Card
– microSDXC Memory Card

- The above are supported memory card types as of August 2014.
- This camera supports use of microSD memory cards of the following types and capacities: microSD memory cards up to 2GB, microSDHC memory cards from 2GB up to 32GB, microSDXC memory cards from 32GB up to 2TB. Note that the ability to use any particular card with this camera, even if it satisfies the above capacity and type requirements, is not guaranteed.

■ Memory Card Handling Precautions

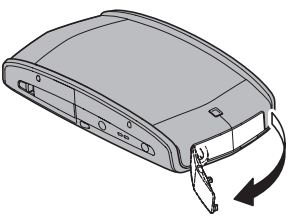
Certain types of memory cards can slow down processing speeds, and even can make it impossible to store High Quality movies correctly. Also, use of certain types of memory cards slows down data transfer and increases the time it takes to record movie data, which can result in breaks in the image and/or audio during playback. If this happens, and flash on the monitor screen.

⚠ Warning!

- microSD/microSDHC/microSDXC memory cards present a swallowing hazard for small children.
- Keep microSD/microSDHC/microSDXC memory cards out of the reach of small children. Should a memory card ever be swallowed accidentally, consult a physician immediately.

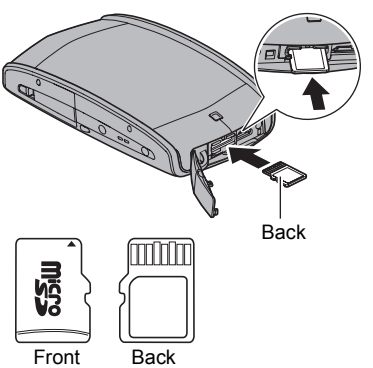
To load a memory card

1. **Press [⏻] (Power) to turn off the camera and then open the [CARD USB] cover.**

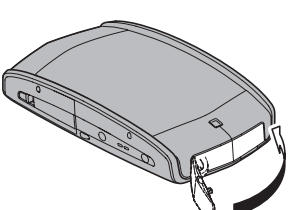


2. **Load a memory card.**

Positioning the memory card so its front is facing downwards (towards the monitor screen side of the camera), slide it into the card slot all the way in until you hear it click securely into place.



3. **Close the [CARD USB] cover.**



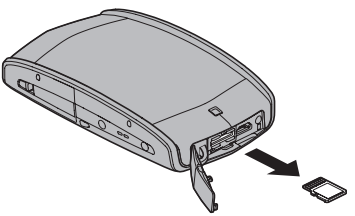
IMPORTANT!

- Never insert anything besides a supported memory card (page 23) into the memory card slot.
- Should water or any foreign object ever get into the card slot, immediately turn off the camera, remove the battery, and contact your retailer or nearest CASIO authorized service center.

To replace the memory card

Press the memory card and then release it. This will cause it to pop out of the memory card slot slightly. Pull the card out the rest of the way and then insert another one.

- Never remove a card from the camera while the back lamp is flashing green. Doing so can cause the image save operation to fail and even damage the memory card.



To format (initialize) a new memory card

Format a memory card on the camera before using it for the first time.

IMPORTANT!

- Formatting a memory card that already has snapshots or other files on it, will delete its contents. Normally you do not need to format a memory card again. However, if storing to a card has slowed down or if you notice any other abnormality, re-format the card.
- Be sure to use the camera to format a memory card. Formatting a card on a computer will result in a non-SD standard format, which can greatly slow down processing time and cause compatibility, performance, and other problems.

1. **Press [⏻] (Power) to turn on the camera and then press [MENU].**

2. **Use [◀] and [▶] to select the “Set Up” tab.**

3. **Use [▲] and [▼] to select “Format” and then press [▶].**

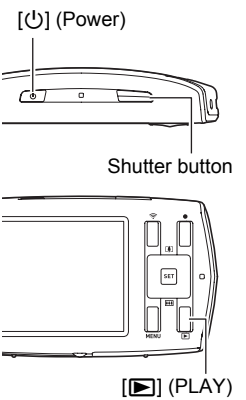
4. **Use [▲] and [▼] to select “Format” and then press [SET].**

Turning the Camera On and Off

■ To turn power on

Pressing [⏻] (Power) enters the REC mode so you can record images. Pressing [▶] (PLAY) while in the REC mode enters the PLAY mode, which you can use to view snapshots and movies (pages 31, 61).

- Pressing [▶] (PLAY) turns on the camera and enters the PLAY mode.
- Pressing the shutter button while in the PLAY mode returns to the REC mode.
- Take care to ensure that nothing is restricting or coming into contact with the lens as it extends. Holding the lens with your hand so it cannot extend creates the risk of malfunction.
- About 10 seconds after you press [▶] (PLAY) to enter the PLAY mode, the lens will retract into the camera.
- The Sleep function or Auto Power Off (pages 93, 94) will turn off power automatically if you do not perform any operation for a preset amount of time.



■ To turn off the camera

Press [⏻] (Power).

NOTE

- You also can configure the camera to turn on or off when you press [▶] (PLAY) (page 94).

Shooting a Snapshot

To select an auto recording mode

In addition to the two auto recording modes, the camera also has ART SHOT and BEST SHOT modes to suit a variety of digital imaging needs.
This section explains general shooting procedures using an auto recording mode. For information about other recording modes, see pages 36 and 38.

Setting	REC Screen Icon Display	Description
Auto		This is the standard Auto recording mode.
Premium Auto		With Premium Auto recording, the camera automatically determines whether you are shooting a subject or scenery, and other conditions. Premium Auto recording delivers higher image quality than standard Auto recording. • Some of the settings configured automatically by Premium Auto cannot be changed by you. • Premium Auto recording takes longer to process image data after it is shot than Auto recording. • It also requires more power (and runs down the battery quicker) than Auto.

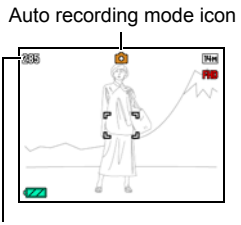
1. **Press [⏻] (Power) to turn on the camera.**
The camera will enter the REC mode.
• If the camera is in the PLAY mode, press the shutter button.

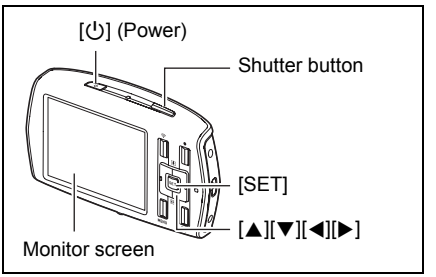
2. **Press [SET].**

3. **Use [▲] and [▼] to select the top Control Panel option (Recording mode) (page 35).**

4. Use [◀] and [▶] to select “Auto” or “Premium Auto”, and then press [SET].

This enters the selected auto recording mode.





To shoot a snapshot

1. Point the camera at the subject.

If you are using Premium Auto, text will appear in the lower right corner of the monitor screen describing the type of shot the camera has detected.

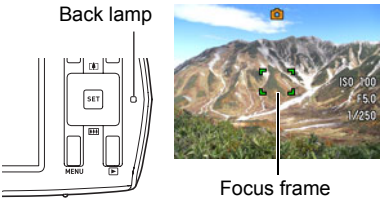
- You can zoom the image using [▲] and [▼], if you want.

Wide Angle

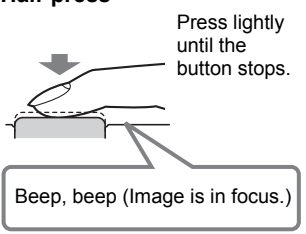
Telephoto

2. Half-press the shutter button to focus the image.

When focus is complete, the camera will beep, the back lamp will light green, and the focus frame will turn green.



Half-press

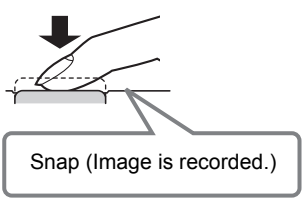


When you half-press the shutter button, the camera automatically adjusts exposure and focuses on the subject it is currently pointed at. Mastering how much pressure is required for a half-press and a full-press of the shutter button is an important technique for good-looking images.

3. Continuing to keep the camera still, press the shutter button the rest of the way down.

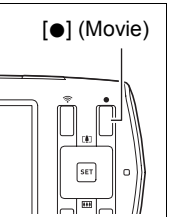
This records the snapshot.

Full-press



Recording a Movie

Press [●] (Movie) to start movie recording. Press [●] (Movie) again to stop movie recording. See page 45 for details.



■ If the image does not focus...

If the focus frame stays red and the back lamp is flashing green, it means that the image is not in focus (because the subject is too close, etc.). Re-point the camera at the subject and try to focus again.

■ Shooting with Auto

“Focus lock” (page 49) is the name of a technique you can use when you want to shoot an image in which the subject to be focused on is not within the focus frame in the center of the screen.

■ Shooting with Premium Auto

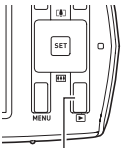
- When shooting with Premium Auto, you can use the menu screen (page 47) to change the settings of only the menu items below. No other menu items will appear on the menu while you are shooting with Premium Auto.
  - REC: Grid, Review, Icon Help, Information
  - Quality: Size, Quality (Movie), EV Shift
  - Set Up: All items
- In addition to shutter speed, aperture, and ISO sensitivity, the camera automatically executes the following operation as required when shooting with Premium Auto.
  - Auto Focus is normally performed until you half-press the shutter button.
  - The camera automatically determines the focus point on the screen and focuses there.
  - Make-up (page 43)
    Under the initial default camera setup when you purchase it, selecting Premium Auto as the auto recording mode (page 27) turns on the Make-up function.
- In some cases, Premium Auto may not be able to interpret the shooting environment correctly. If this happens, shoot with standard Auto.

Viewing Snapshots

Use the following procedure to view snapshots on the camera's monitor screen.

- For information about how to play back movies, see page 61.

1. Press [▶] (PLAY) to enter the PLAY mode.



[▶] (PLAY)

- This will display one of the snapshots currently stored in memory.
- Information about the displayed snapshot also is included (page 11).
- You also can clear the information to view only the snapshot (page 70).
- You can zoom in on the image by pressing [▲] (page 62). If you are recording a snapshot that is very important to you, it is recommended that you zoom the image and check its details after recording it.

2. Use [◀] and [▶] to scroll between images.

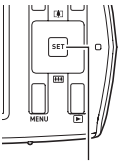
- Holding down either button scrolls at high speed.

NOTE

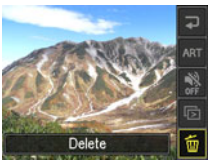
- Half-pressing the shutter button while in the PLAY mode or while a menu screen is displayed will switch directly to the REC mode.

Deleting Snapshots and Movies

If memory becomes full, you can delete snapshots and movies you no longer need in order to free up storage and record more images.



[SET]

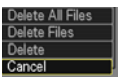


IMPORTANT!

- Remember that a file (image) delete operation cannot be undone.

■ To delete a single file

1. **Enter the PLAY mode, and then press [SET].**



2. **Use [▲] and [▼] to select the "🗑" (Delete) PLAY Panel option, and then press [SET].**

3. **Use [◀] and [▶] to scroll through the files until the one you want to delete is displayed.**

4. **Use [▲] and [▼] to select "Delete" and then press [SET].**

- To delete other files, repeat steps 3 and 4.
- To exit the delete operation, press [MENU].

■ **To delete specific files**

1. **Enter the PLAY mode, and then press [SET].**

2. **Use [▲] and [▼] to select the "🗑" (Delete) PLAY Panel option, and then press [SET].**

3. **Use [▲] and [▼] to select "Delete Files" and then press [SET].**
- This displays a file selection screen.

4. **Use [▲], [▼], [◀], and [▶] to move the selection boundary to the file you want to delete, and then press [SET].**
- This will select the check box of the currently selected file.

5. **Repeat step 4 to select other files, if you want. After you are finished selecting files, press [MENU].**

6. **Use [▲] and [▼] to select "Yes" and then press [SET].**
- This deletes the files you selected.
- To exit the delete operation, press [MENU].

■ **To delete all files**

1. **Enter the PLAY mode, and then press [SET].**

2. **Use [▲] and [▼] to select the "🗑" (Delete) PLAY Panel option, and then press [SET].**

3. **Use [▲] and [▼] to select "Delete All Files" and then press [SET].**

4. **Use [▲] and [▼] to select "Yes" and then press [SET] to delete all files.**
This will cause the message "There are no files." to appear.

Snapshot Shooting Precautions

Operation

- Never open the battery cover while the back lamp is flashing green. Doing so can result in the image you just shot being saved incorrectly, damage to other images stored in memory, malfunction of the camera, etc.

Monitor Screen when Shooting Snapshots

- Subject brightness conditions can cause monitor screen response to slow and can cause digital noise in the monitor screen image.
- The image that appears on the monitor screen is for image composition. The actual image will be recorded at the quality set for the image quality setting (page 55).

Shooting Indoors under Fluorescent Lighting

- Minute flickering of fluorescent lighting can affect the brightness or color of an image.

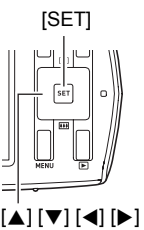
■ Auto Focus Restrictions

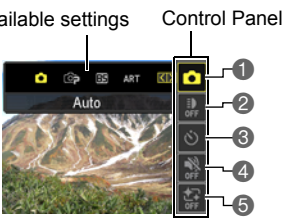
- Any of the following can make proper focus impossible.
  - Solid color wall or other very low contrast subject
  - Strongly back lit subject
  - Very shiny subject
  - Blinds or other subject with a repeating horizontal pattern
  - Multiple subjects at varying distances from the camera
  - Subject in a dark location
  - Camera movement while shooting
  - Fast-moving subject
  - Subjects outside the focus range of the camera
- If you cannot focus properly, try using focus lock (page 49).

Using the Control Panel

The Control Panel can be used to configure camera settings.

1. In the REC mode, press [SET].





2. Use [▲] and [▼] to select the setting you want to change.
This will select one of the Control Panel icons and display its settings.

1. Recording mode (pages 27, 36, 38)
2. LED light (page 40)
3. Self-timer (page 41)
4. Silent mode (page 42)
5. Make-up (page 43)

3. Use [◀] and [▶] to change the setting.

4. If you want to configure another setting, repeat steps 2 and 3.

5. After all of the settings are the way you want, press [SET].
This will apply the settings and return to the REC mode.
- You can close the Control Panel by pressing [MENU].

NOTE

- No icon is displayed for any Control Panel option (page 9) that is set to its initial default (reset) setting. An icon will appear only if you change the setting of the corresponding Control Panel option. The following are the initial defaults for Control Panel options.
  – Self-timer: Off
  – Make-up: Off
- You also can configure settings other than those listed above (page 47).

Shooting with Artistic Effects (ART SHOT)

A variety of artistic effects help to make even common, ordinary subjects become more novel and exciting.

Scene	Description
Toy Camera	Dark edges and altered hues make images look like they were shot by a toy camera.
Soft Focus	Overall blurring for a soft and romantic effect.
Light Tone	Weakened contrast for a feeling of airy refinement.
Pop	Enhanced saturation makes colors stand out in with rich clarity.
Sepia	Sepia tones create a decidedly retro look.
Monochrome	All of the strong contrast and graininess of a black and white print.
Miniature	Partial blurring makes scenes look like they are from of a miniature world.
Fisheye	A fisheye lens effect can be used to create a variety of humorous images.
Crystal Ball	Creates a mysterious effect by placing the image in a bubble floating in midair.

1. **In the REC mode, press [SET].**

2. **Use [▲] and [▼] to select the top Control Panel option (Recording mode) (page 35).**

3. **Use [◀] and [▶] to select "ART" (ART SHOT), and then press [SET].**

4. **Use [▲], [▼], [◀] and [▶] to move the boundary to the scene you want to select.**

- You can access information about the currently selected scene. See page 37 for details.

5. **Press [SET] to configure the camera with the settings for the currently selected scene.**

This returns to the REC mode.

- The settings of the scene you selected remain in effect until you select a different scene.
- To select a different ART SHOT scene, repeat the above procedure from step 1.

6. **Press the shutter button to shoot.**

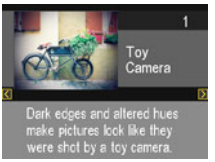
NOTE

- Movie recording is disabled while “ART SHOT” is selected.
- The ART SHOT cannot be used together with the following features.
  CS, Make-up, Color Filter
- Face detection can be used only while one of the ART SHOT scenes below is selected.
  Toy Camera, Soft Focus, Light Tone

■ Using Scene Information Screen

To find out more about a scene, select it with the boundary on the scene selection screen, and then press [MENU].

- To return to the scene menu, press [MENU].
- To scroll between scenes, use [◀] and [▶].
- To configure the camera with the settings for the currently selected scene, press [SET].



Using BEST SHOT

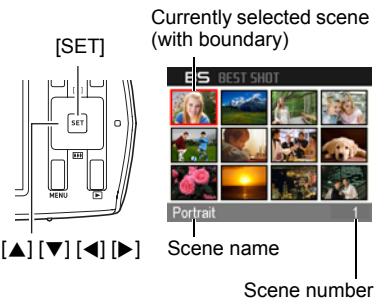
BEST SHOT provides you with a collection of sample “scenes” that show a variety of different types of shooting conditions. When you need to change the setup of the camera, simply find the scene that matches what you are trying to achieve, and the camera sets up for it automatically. This helps to minimize the chance of ruined images due to poor exposure and shutter speed settings.

1. In the REC mode, press [SET].

2. Use [▲] and [▼] to select the top Control Panel option (Recording mode) (page 35).

3. Use [◀] and [▶] to select “BS” (BEST SHOT), and then press [SET].

This will display a menu of BEST SHOT scenes.



4. Use [▲], [▼], [◀], and [▶] to move the boundary to the scene you want to select.

- The scene menu has multiple pages. Use [▲] and [▼] to scroll between menu pages.
- You can access information about the currently selected scene. See page 39 for details.

5. Press [SET] to configure the camera with the settings for the currently selected scene.

This returns to the REC mode.

- The settings of the scene you selected remain in effect until you select a different scene.
- To select a different BEST SHOT scene, repeat the above procedure from step 1.

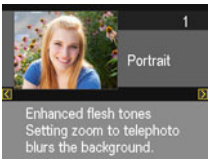
6. Press the shutter button (if you are shooting a snapshot) or [●] (Movie) (if you are shooting a movie).

- To return to the auto recording mode, press [SET], use [▲] and [▼] to select the top Control Panel option (Recording mode), and then select (Auto) or (Premium Auto).

■ Using Scene Information Screen

To find out more about a scene, select it with the boundary on the scene selection screen, and then press [MENU].

- To return to the scene menu, press [MENU].
- To scroll between scenes, use [◀] and [▶].
- To configure the camera with the settings for the currently selected scene, press [SET].



■ BEST SHOT Precautions

- Some BEST SHOT scenes cannot be used while recording a movie.
- Some scenes like “Night Scene Portrait” results in a slow shutter speed setting. Since a slow shutter speed increases the chance of digital noise in the image, the camera automatically performs a digital noise reduction process when either of these scenes is selected. This means that it will take a bit longer for the image to be saved which is indicated by the back lamp flashing green. Do not perform any key operation during that time.
- BEST SHOT scene images were not shot using this camera.
- Images shot using a BEST SHOT scene may not produce the results you expected due to shooting conditions and other factors.
- You can modify the camera settings that are made after you select a BEST SHOT scene. Note, however, that the BEST SHOT settings revert to their defaults when you select another BEST SHOT scene or turn off the camera.

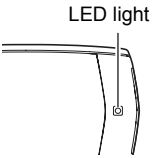
Using LED Light (LED)

Use the LED light when shooting where lighting is dim. The effectiveness of the LED light is reduced the further you are from the subject.

1. **In the REC mode, press [SET].**

2. **Use [▲] and [▼] to select the "LED light" Control Panel option (page 35).**

3. **Use [◀] and [▶] to select the setting you want and then press [SET].**



Setting	REC Screen Icon Display	Description
Auto		The LED light fires automatically under dark shooting conditions when the shutter button is half-pressed to focus and/or full-pressed to shoot.
On		LED always lights when shooting.
Off	None	LED never turns on or fires.

4. **Press the shutter button to shoot.**

IMPORTANT!

- Do not turn on the LED light near a person's eyes and do not allow anyone to look directly into the light.
- You should compose the image so the main subject is in the center of the image when using the LED light.
- Since the camera is equipped with a wide-angle lens, the center tends to be brighter while the periphery tends to be darker.

Using the Self-timer (Self-timer)

With the Self-timer, pressing the shutter button starts a timer. The shutter is released and the image is shot after a fixed amount of time.

1. **In the REC mode, press [SET].**

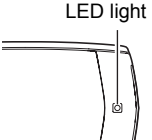
2. **Use [▲] and [▼] to select the "Self-timer" Control Panel option (page 35).**

3. **Use [◀] and [▶] to select the setting you want and then press [SET].**

Setting	REC Screen Icon Display	Description
10sec Self-timer		10-second Self-timer
2sec Self-timer		2-second Self-timer • When shooting under conditions that slow down the shutter speed, you can use this setting to prevent image blur due to camera movement.
×3 Self-timer (Triple Self-timer)		Shoots three images: one image 10 seconds after the shutter button is pressed, and the next two images as soon as the camera is ready after shooting the previous image. How long it takes for the camera to get ready to shoot depends on the image size and quality settings and whether or not a memory card is loaded in the camera.
Self-timer Off	None	Turns off the Self-timer.

- The LED light flashes while the Self-timer countdown is in progress.
- You can interrupt an ongoing Self-timer countdown by pressing [SET].

LED light



NOTE

- The Self-timer cannot be used together with the following features.
  CS
- The Triple Self-timer cannot be used together with the following features.
  Movie, Make-up, ART SHOT

Shooting and Playing back Images without Disturbing Others (Silent)

The Silent mode automatically configures camera settings to avoid disturbing others around you. It disables LED light operation and mutes camera operation tones, audio during movie playback. This comes in handy when shooting or playing back in a museum or other areas where care is required when operating the camera.

1. **In the REC mode, press [SET].**

2. **Use [▲] and [▼] to select the "Silent" Control Panel option (page 35).**

3. **Use [◀] and [▶] to select "On" and then press [SET].**

This enters the Silent mode, which is indicated by (Silent Mode) on the monitor screen.

- The settings shown below are fixed and cannot be changed while in the Silent mode.

Setting	Description
LED light	Off
Self-timer	Off
Sounds	Off

- See the following for details.
  - LED light (page 40)
  - Self-timer (page 41)
  - Sounds (page 89)
- Entering the Silent mode in the REC mode will also enter the Silent mode in the PLAY mode automatically (page 64).

Recording Beautiful Portraits (Make-up)

Make-up enables adjustment of human skin tone hues and texture, and softening of facial shadows caused by harsh sunlight for better looking portraits. Make-up can be used with the recording modes listed below.

1. In the REC mode, press [SET].

2. Use [▲] and [▼] to select the "Make-up" Control Panel option (page 35), and then press [SET].

3. Use [▲] and [▼] to select "Skin Tone" or "Smooth Skin", and then use [◀] and [▶] to change the setting value.

Skin Tone	"0" to "Light +6"
Smooth Skin	"0" to "+12"

4. Press [SET].

5. Point the camera at the subject and shoot.

NOTE

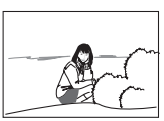
- Face Detection (page 50) automatically turns on whenever the "Skin Tone" or "Smooth Skin" level setting is something other than "0".
- Make-up cannot be used with the following functions.
  Movie recording, ART SHOT, CS, Triple Self-timer

Shooting with Zoom

Your camera is equipped with various types of zoom: HD Zoom, SR Zoom, and digital zoom. The maximum zoom factor depends on the image size setting.

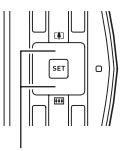
HD Zoom	Allows greater zoom capabilities by cutting out a portion of the original image and enlarging it, without deterioration of image quality.
SR Zoom	Applies super resolution technology to suppress image deterioration.
Digital zoom	A digital process is used to enlarge the center of the image, so there is deterioration of image quality.

1. In the REC mode, press [▲] or [▼] to zoom.



Wide Angle

[▲] Telephoto



[▲] [▼]

[▼] (Wide Angle): Reduces the size of the subject and broadens the range.
[▲] (Telephoto) : Enlarges the subject and narrows the range.

2. Press the shutter button to shoot the image.

NOTE

- "⊕" is displayed on the monitor screen while digital zoom is being used.

■ Zoom Factor

The image deterioration point depends on the image size (page 55). The smaller the image size, the higher the zoom factor you can use before reaching the image deterioration point.

Image Size	Undeteriorated zoom limit	Maximum Zoom Factor
14M	2.0X	4.0X
3M	4.2X	8.4X

IMPORTANT!

- When shooting with the ART SHOT Crystal Ball scene, the maximum zoom factor is 2.0X.

Recording Movie Images

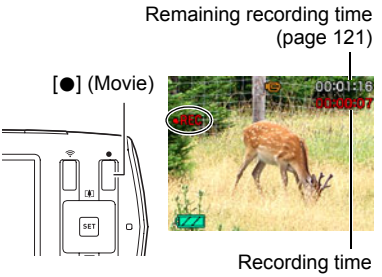
To record a movie

1. **Configure the quality setting for the movie (page 56).**

The length of the movie you can record will depend on the quality setting you select.

2. **In the REC mode, point the camera at the subject and then press [●] (Movie).**

This will start recording and display ●REC on the monitor screen.
Movie recording includes monaural audio.



3. **Press [●] (Movie) again to stop recording.**

- Each movie can be up to 29 minutes long. Movie recording stops automatically after 29 minutes of recording. Movie recording also will stop automatically if memory becomes full before you stop movie recording by pressing [●] (Movie).

Shooting with BEST SHOT

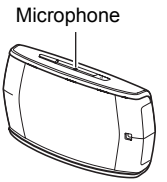
With BEST SHOT (page 38), you can select the sample scene that matches the type of movie you are trying to shoot and the camera will change its setup accordingly, for beautiful movies every time.

Image stabilization during movie recording

Image stabilization is always enabled during movie recording. Note, however, that image stabilization does not prevent image blur due to subject movement during movie recording. Also, image stabilization results in a narrower angle of view during movie recording.

NOTE

- Spending a long time using movie recording will cause the camera to become slightly warm to the touch. This is normal and does not indicate malfunction.
- The camera also records audio. Note the following points when shooting a movie.
  - Take care that the microphone is not blocked by your fingers, etc.
  - Good recording results are not possible when the camera is too far away from what you are trying to record.



- Shooting a very bright subject can cause a vertical band or a pink cast on the monitor screen image. This does not indicate malfunction.
- Using the camera's built-in memory or certain types of memory cards can slow down processing speeds, and even can make it impossible to store High Quality movies correctly. Also, use of certain types of memory cards slows down data transfer and increases the time it takes to record movie data, which can result in breaks in the image and/or audio during playback. If this happens, the and flash on the monitor screen.
- The effects of camera movement in an image become more pronounced when you shoot close up or with a large zoom factor.
- You can use the [◀] and [▶] keys during movie recording to adjust the EV shift setting.

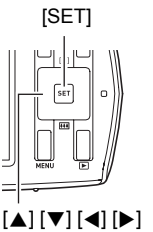
Advanced Settings

The following are menu operations you can use to configure various camera settings.

- REC mode menu contents and operations are different from those in the PLAY mode. This section explains operations using the REC menu screen. See page 63 for information about PLAY menu screen operations.

Using On-screen Menus

■ Example REC Menu Screen Operation



1. **In the REC mode, press [MENU].**
This will display the REC menu screen.

2. **Use [◀] and [▶] to select the tab where the menu item you want to configure is located.**

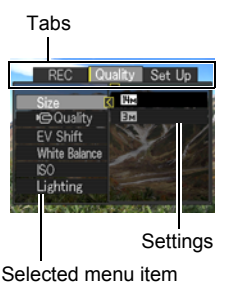
3. **Use [▲] and [▼] to select the menu item you want, and then press [▶].**

4. **Use [▲] and [▼] to change the setting of the selected menu item.**

5. **After the setting is the way you want, press [SET] to apply the setting and return to the viewfinder screen.**

- Pressing [◀] instead of [SET] applies the selected setting and returns to the menu item selection.
- To configure settings on another tab after pressing [◀] to return to the menu item selection, use [▲] or [MENU] to move the highlighting up to the tabs, and then use [◀] and [▶] to select the tab you want.

Example:
When “Size” is selected on the “Quality” tab

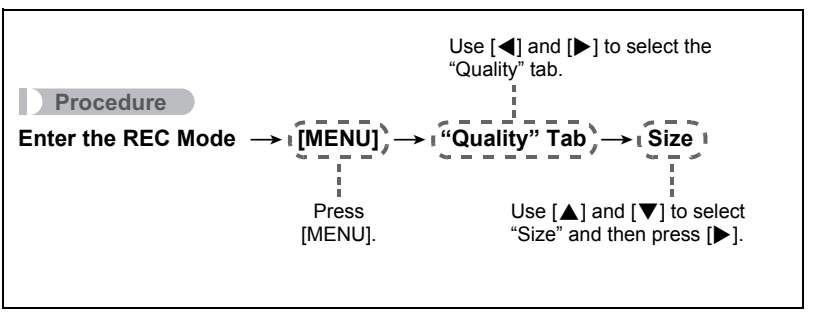


NOTE

- [MENU] provides a helpful way to navigate around tabs and menus.
  - Pressing [MENU] while a tab is selected will display the viewfinder screen.
  - Pressing [MENU] while menu item or setting is selected will "back step" in the following sequence: Settings ⟶ Menu items ⟶ Tab.
- Depending on the recording mode, some of the items on the menu that appears may not be usable. Only the menu items whose settings can be configured (page 30) will be displayed on the menus while Premium Auto is in use.

■ REC Menu Operations in This Manual

REC menu operations are represented in this manual as shown below. The following operation is the same one described under "Example REC Menu Screen Operation" on page 47.



Selecting a Focus Mode (Focus)

Procedure

Enter the REC Mode ⟶ [MENU] ⟶ "REC" Tab ⟶ Focus

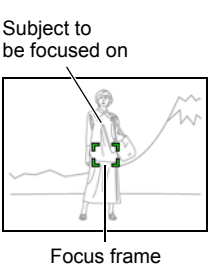
Auto Focus is the only focus mode available while Make-up (page 43) or Face Detection (page 50) is enabled. To select another focus mode, first turn off Make-up and Face Detection.

Settings	REC Screen Icon Display	Type of Shot	Focus Mode		Approximate Focus Range*1	
			Snapshot	Movies	Snapshot	Movies
AF (Auto Focus)	None	General recording	Automatic	Fixed focal point *2	10 cm to ∞ (infinity) (3.9" to ∞)	10 cm to ∞ (infinity) (3.9" to ∞)
Macro		Close ups			10 cm to 50 cm (3.9" to 19.7")	10 cm to ∞ (infinity) (3.9" to ∞)
PF (Pan Focus)		Shooting with a relatively wide focus range	Fixed focal point		1.3 m to ∞ (infinity) (4.3' to ∞)	50 cm to ∞ (infinity) (19.7" to ∞)
Infinity		Scenery and other distant subjects	Fixed		Infinity (Wide Angle)	

*1 The focus range is the distance from the lens surface.
*2 The camera focuses on the subject in the center of the screen only once, immediately after the [●] (Movie) button is pressed. After that, focus remains fixed during recording of the movie.

Using Focus Lock

"Focus lock" is a technique you can use when you want to compose an image in which the subject you want to focus on is not within the focus frame in the center of the screen.



1. **Align the monitor screen's focus frame with the subject you want to focus on and then half-press the shutter button.**

2. Keeping the shutter button half-pressed (which maintains the focus setting), move the camera to compose the image.

3. When you are ready to shoot the image, press the shutter button the rest of the way down.

NOTE

- Focus lock also locks exposure (AE).
- Certain shooting conditions when you are shooting with AF (Auto Focus) or Macro focus lock may cause the camera to switch automatically to PF (Pan Focus).

Using Face Detection (Face Detection)

Procedure

Enter the REC Mode → [MENU] → "REC" Tab → Face Detection

When shooting people, the face detection feature detects the faces of up to ten individuals and adjusts focus and brightness accordingly.

1. Use [▲] and [▼] to select "On" and then press [SET].

2. Point the camera at the subject(s).
The camera will detect human faces and display a frame around each one.

3. Half-press the shutter button.
The camera will focus and the frames around the faces it focuses on will turn green.

4. Press the shutter button the rest of the way down.

Face Detection icon

IMPORTANT!

- The camera performs center focus if it cannot detect a face.
- The only focus mode available while face detection is enabled is Auto Focus (AF).
- Face detection may take a bit longer when you hold the camera sideways.
- Detection of the following types of faces is not supported.
  - Face that is obstructed by hair, sunglasses, a hat, etc., or a face in dark shade
  - A profile or a face that is at an angle
  - A face that is very far away and small, or very close and large
  - A face in an area that is very dark
  - The face of a pet or some other non-human subject
- Face detection cannot be used in combination with any of the following features.
  - Movie Recording

- Turning on Premium Auto (page 27) or Make-up (page 43) automatically turns on Face Detection.

Using Continuous Shutter (CS)

Procedure

Enter the REC Mode → [MENU] → "REC" Tab → CS

While Continuous Shutter is turned on, images are continually recorded until memory becomes full, as long as you keep the shutter button depressed.
Releasing the shutter button stops shooting.

NOTE

- With continuous shutter, exposure and focus for the first image are applied for successive images as well.
- Continuous shutter cannot be used in combination with any of the following.
  - Premium Auto
  - Make-up
  - ART SHOT
  - Movie Recording
  - Self-timer
- When using a continuous shutter mode, keep the camera still until all recording is finished.
- The continuous shutter rate depends on the current image size and image quality settings.
- The speed of Continuous Shutter depends on the type of memory card loaded in the camera and the amount of free space available for storage. When shooting to built-in memory, continuous shutter shooting is relatively slow.

Reducing the Effects of Camera and Subject Movement (Anti Shake)

Procedure

Enter the REC Mode → [MENU] → "REC" Tab → Anti Shake

You can turn on the camera's Anti Shake feature to reduce image blur due to subject movement or camera movement when shooting a moving subject using telephoto, when shooting a fast-moving subject, or when shooting under dim lighting conditions.

Setting	REC Screen Icon Display	Description
On		Reduces the effects of hand and subject movement during snapshot recording.
Off	None	Turns off snapshot Anti Shake.

NOTE

- ISO sensitivity, aperture, and shutter speed do not appear on the monitor screen when you half-press the shutter button while "On" is selected. These values will appear briefly, however, in the preview image that is displayed immediately after you shoot a snapshot.
- The ISO sensitivity setting (page 59) must be "Auto" for Anti Shake to work.
- Shooting with Anti Shake can cause an image to appear somewhat coarser than normal and can cause slight deterioration of image resolution.
- Anti Shake may not be able to eliminate the effects of camera or subject movement when movement is severe.

Assigning Functions to the [◀] and [▶] Keys (L/R Key)

Procedure

Enter the REC Mode ⟶ [MENU] ⟶ “REC” Tab ⟶ L/R Key

You can assign one of the four functions listed below to the [◀] and [▶] keys.

Setting	[◀]/[▶] key operation
EV Shift	Adjusts the EV shift value (page 56).
White Balance	Changes the white balance setting (page 57).
ISO	Changes the ISO Sensitivity setting (page 59).
Self-timer*	Sets the self-timer time (page 41).
Off	Cancels [◀] and [▶] key assignments.

* Triple Self-timer cannot be selected while ART SHOT is the recording mode or while “On” is selected for “Make-up”. While “On” is selected for Continuous Shutter (CS) or Silent mode, the [◀] and [▶] keys cannot be used to change the self-timer time.

NOTE

- The “L/R Key” setting cannot be used together with the following feature.
  – Premium Auto

Displaying the On-screen Grid (Grid)

Procedure

Enter the REC Mode ⟶ [MENU] ⟶ “REC” Tab ⟶ Grid

The on-screen grid can be displayed on the REC mode monitor screen for easy vertical and horizontal alignment when composing images.

Turning on Image Review (Review)

Procedure

Enter the REC Mode → [MENU] → “REC” Tab → Review

While Review is turned on, the camera will display a image for about one second immediately after you press the shutter button to record it.

- A review image is always displayed when shooting with Continuous Shutter (CS), regardless of the Review setting.
- When shooting with some functions while “On” is selected for “Review” will cause the message “Busy... Please wait...” to appear after you press the shutter button. Shooting another image is disabled while this message is displayed. Wait a while until the process being performed is complete.

Using Icon Help (Icon Help)

Procedure

Enter the REC Mode → [MENU] → “REC” Tab → Icon Help

While Icon Help is turned on, a textual description will appear on the display for certain icons when you switch between REC functions.

Functions Supported by Icon Help

- REC Mode, LED light, White Balance, Self-timer, EV Shift

Selecting Display Information (Information)

Procedure

Enter the REC Mode → [MENU] → “REC” Tab → Information

Selecting “On” displays setup status and other information.

Image Quality Settings (Quality)

To select the snapshot image size (Size)

Procedure

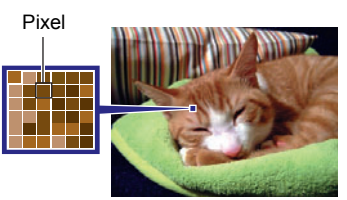
Enter the REC Mode → [MENU] → "Quality" Tab → Size

Image Size (Pixels)	REC Screen Icon Display	Suggested Print Size and Application	Description
14M (4320×3240)	14M	Poster Print	Good detail for better clarity even for images cropped (page 69) from the original
3M (2048×1536)	3M	3.5"×5" Print	Best when preserving memory capacity is relatively more important than image quality.

- The initial factory default image size setting is "14M".
- You should regard the print paper sizes suggested here as guidelines only (200 dpi print resolution).

■ Pixels and image size

A digital camera image is a collection of small dots called "pixels". The more pixels there are in an image, the more detail there will be. However, you generally can do with fewer pixels when printing an image (L size) through a print service, attaching an image to e-mail, when viewing the image on a computer, etc. The size of an image indicates how many pixels it contains, and is expressed as horizontal pixels×vertical pixels.



Example:

Image size	Pixels
14M	4320×3240 (Approximately 14 million pixels)
3M	2048×1536 (Approximately 3 million pixels)

- Note that larger images have more pixels, so they take up more memory space.
- For information about image size and number of images that can be stored, see page 121.
- For information about movie image size, see page 56.
- For information about resizing existing snapshots, see page 68.

Specifying Movie Image Quality (Quality (Movie))

Procedure

Enter the REC Mode ⟶ [MENU] ⟶ "Quality" Tab ⟶ Quality (Movie)

Movie image quality is a standard that determines the detail, smoothness, and clarity of a movie during playback. Shooting with the high-definition movie (FHD) setting will result in better image quality, but it also shortens the amount of time you can shoot.

Image Quality (Pixels)		REC Screen Icon Display	Approximate Data Rate	Frame Rate
FHD	1920×1080	FHD	16.6 Megabits/second	30 frames/second
STD	640×480	STD	8.4 Megabits/second	30 frames/second

- The 16:9 aspect ratio is available when "FHD" is selected as the image quality.
- Memory capacity (Movie recording time you can shoot) will be affected by the quality settings you configure (page 121).

Correcting Image Brightness (EV Shift)

Procedure

Enter the REC Mode ⟶ [MENU] ⟶ "Quality" Tab ⟶ EV Shift

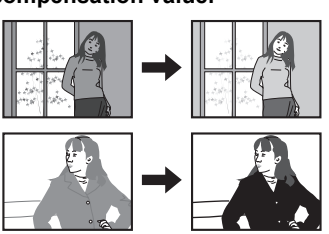
You can manually adjust an image's exposure value (EV value) before shooting it.

- Exposure Compensation Range: –2.0 EV to +2.0 EV
- Unit: 1/3 EV

1. Use [▲] and [▼] to adjust the exposure compensation value.

[▲] : Increases the EV value. A higher EV value is best for light-colored subjects and backlit subjects.

[▼] : Decreases the EV value. A lower EV value is best for dark-color subjects and for shooting outdoors on a clear day.



To cancel exposure compensation, change the EV value to 0.0.

2. Press [SET].

This applies the exposure compensation value. The exposure compensation value you set remains in effect until you change it or turn off the camera (which causes it to revert to "0.0").

NOTE

- When shooting under very dark or very bright conditions, you may not be able to obtain satisfactory results even after performing exposure compensation.

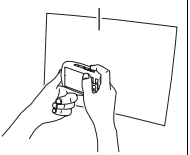
Controlling White Balance (White Balance)

Procedure

Enter the REC Mode ⟶ [MENU] ⟶ "Quality" Tab ⟶ White Balance

You can adjust white balance to match the source of light available where you are shooting and avoid the blue cast that results when shooting outdoors when it is cloudy, and the green cast that results when shooting under fluorescent lighting.

Setting	REC Screen Icon Display	Description
Auto	None	Configures the camera to adjust white balance automatically.
(Daylight)		For shooting outdoors on a clear day
(Overcast)		For shooting outdoors on an overcast rainy day, in the shade, etc.
(Shade)		For shooting on a clear day in the shade of trees or buildings
(Day White Fluor)		For shooting under white or day white fluorescent lighting
(Daylight Fluor)		For shooting under daylight fluorescent lighting
(Tungsten)		For shooting under light bulb lighting

Setting	REC Screen Icon Display	Description
Manual	MWB	For configuring the camera manually to suit a particular light source ①Select “Manual”. ②Under the lighting conditions you plan to use when shooting, point the camera at a blank white piece of paper so it fills the entire monitor screen and then press the shutter button. ③Press [SET]. The white balance setting is retained even if you turn off the camera. Blank white paper 

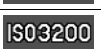
- When “Auto” is selected for the white balance setting, the camera automatically determines the white point of the subject. Certain subject colors and light source conditions can cause problems when the camera tries to determine the white point, which makes proper white balance adjustment impossible. If this happens, select the white balance setting that matches your shooting conditions (Daylight, Overcast, etc.).

Specifying ISO Sensitivity (ISO)

Procedure

Enter the REC Mode ⟶ [MENU] ⟶ “Quality” Tab ⟶ ISO

ISO sensitivity is a measure of sensitivity to light.

Setting	REC Screen Icon Display	Description		
Auto	None	Adjusts sensitivity automatically according to conditions.		
ISO 100		Lower sensitivity ↕ Higher sensitivity	Slow shutter speed ↕ Fast shutter speed (Set for shooting in dimly lit areas.)	Less noise ↕ Some coarseness (increased digital noise)
ISO 200				
ISO 400				
ISO 800				
ISO 1600				
ISO 3200				

- “Auto” ISO sensitivity always is applied for movies, regardless of the current ISO sensitivity setting.
- Higher ISO sensitivity values tend to result in digital noise in images.

Optimizing Image Brightness (Lighting)

Procedure

Enter the REC Mode → [MENU] → "Quality" Tab → Lighting

You can use this setting to optimize the balance between bright areas and dark areas when shooting images.

Setting	REC Screen Icon Display	Description
On		Performs brightness correction. When this option is selected, it takes longer for the image to be stored after the shutter button is pressed.
Off	None	Does not perform brightness correction.

NOTE

- Lighting is disabled during movie recording.

Using Built-in Color Filters (Color Filter)

Procedure

Enter the REC Mode → [MENU] → "Quality" Tab → Color Filter

Settings: Off, B/W, Sepia, Red, Green, Blue, Yellow, Pink, Purple

- You cannot configure a color filter setting while using ART SHOT (page 36) as the recording mode.

Viewing Snapshots and Movies

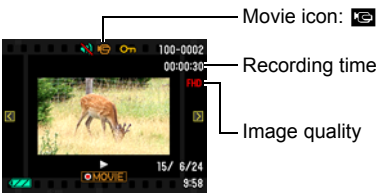
Viewing Snapshots

See page 31 for the procedure for viewing snapshots.

Viewing a Movie

1. Press [▶] (PLAY) and then use [◀] and [▶] to display the movie you want to view.

2. Press [●] (Movie) to start playback.



Movie Playback Controls

Fast forward/ fast reverse	[◀] [▶] • Each press of either button increases the speed of the fast forward or fast reverse operation. • To return to normal playback speed, press [SET].
Play/pause	[SET]
1 frame forward/ back	[◀] [▶] • Holding down either button scrolls continuously.
Volume adjustment	Press [▼] and then press [▲] [▼]. • Volume can be adjusted only while movie playback is in progress.
Stop playback	[●] (Movie)

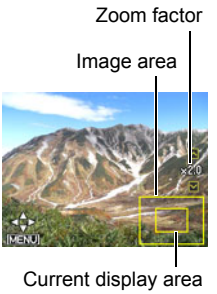
NOTE

- Playback may not be possible for movies not recorded with this camera.

Zooming an On-screen Snapshot

1. In the PLAY mode, use [◀] and [▶] to scroll through the images until the one you want is displayed.

2. Press [▲] to zoom.



- While an image is enlarged, press [▼] to decrease the zoom factor.
- While an image is zoomed on the monitor screen, you can press [MENU] and then use [▲], [▼], [◀], and [▶] to scroll the image. Pressing [MENU] again returns to the zoom screen.
  - When monitor screen contents are turned on, a graphic in the lower right corner of the screen shows what part of the zoomed image is currently displayed.
  - To exit the zoom screen, press [●] (Movie).
  - Though the maximum image zoom factor is 8X, certain image sizes may not allow zooming up to the full 8X.

Displaying the Image Menu

1. In the PLAY mode, press [▼].

Use [▲], [▼], [◀] and [▶] to move the selection boundary around the image menu.
To view a particular image, use [▲], [▼], [◀], or [▶] to move the selection boundary to the image you want and then press [SET].

- A question mark (?) will be displayed for images that cannot be displayed for some reason.
- Depending on the types of images that are stored, it may take a little time for the image menu to appear.

Other Playback Functions (PLAY)

This section explains menu items that you can use to configure settings and perform other playback operations.

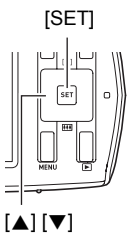
Using the PLAY Panel

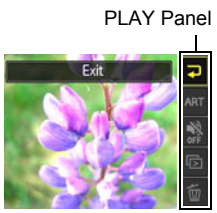
Pressing [SET] in the PLAY mode will display the PLAY Panel.

■ Example PLAY Panel Operation

1. **In the PLAY mode, press [SET].**
The PLAY Panel will appear along the right side of the monitor screen.

2. **Use [▲] and [▼] to select the PLAY Panel item you want, and then press [SET].**





3. **The following describes the operations you can perform for each of the PLAY Panel items.**

Exit	Exits the PLAY Panel.
Art Effect	You can apply artistic effects to recorded snapshots and save the result as a new snapshot. The original snapshot is also retained. For information setting items, see page 36.
Silent	The Silent mode turns off camera operation sounds so you can avoid disturbing others around you when playing back images (page 42).
Slideshow	Displays a slideshow menu. See “Playing a Slideshow on the Camera (Slideshow)” (page 64) for slideshow menu operations.
Delete	Deletes images (page 32).

Performing Playback without Disturbing Others (Silent)

The Silent mode turns off camera operation sounds so you can avoid disturbing others around you when play back images.

1. In the PLAY mode, press [SET].

2. Use [▲] and [▼] to select the "Silent" PLAY Panel option and then press [SET] (page 63).

3. Use [▲] and [▼] to select "On" and then press [SET].

This enters the Silent mode, which is indicated by on the monitor screen. The "Sounds" setting (page 89) automatically changes to "Off" in the Silent mode.

- Entering the Silent mode in the PLAY mode will also enter the Silent mode in the REC mode automatically (page 42).

Playing a Slideshow on the Camera (Slideshow)

1. In the PLAY mode, press [SET].

2. Use [▲] and [▼] to select the "Slideshow" PLAY Panel option and then press [SET] (page 63).

Start	Starts the slideshow.
Time	Time from the start to the end of the slideshow 1 to 5 minutes, 10 minutes, 15 minutes, 30 minutes, 60 minutes
Interval	Amount of time each image remains displayed Use [◀] and [▶] to select a value from 1 to 30 seconds, or "MAX". If you specify a value, movies play from beginning to end. When the slideshow reaches a movie file while "MAX" is selected, only the first frame of the movie will displayed.
Effect	Turns effect on or off. On: Turns on the image change effect and background music. Off: No image change effect or background music

- To stop the slideshow, press [MENU]. Pressing [SET] instead of [MENU] stops the slideshow and returns to the menu screen.
- Adjust audio volume by pressing [▼] and then press [▲] or [▼] during playback.
- All button operations are disabled while the slideshow is transitioning from one image to another.
- The time required for transition from one image to another may be longer in the case of an image that was not recorded with this camera.

Inserting a Built-in Subject into a Snapshot (Paste subject)

Procedure

[▶] (PLAY) → [MENU] → "PLAY" Tab → Paste subject

Use the following procedure to insert a built-in subject image into a snapshot.

1. **Use [◀] and [▶] to select the background image you want and then press [SET].**

- Only an image that satisfies the following conditions can be used as a background image.
  - A snapshot recorded with this camera
  - A snapshot with an aspect ratio of 4:3

2. **Use [◀] and [▶] to select the built-in subject that you want to insert into the image and then press [SET].**

3. **Use [▲] and [▼] to adjust the size of the subject.**

4. **Press [MENU].**

5. **Use [▲], [▼], [◀], and [▶] to adjust its position.**

- Pressing [MENU] again returns to the subject size adjustment screen in step 3.

6. **After the subject's size and position are the way you want, press [SET].**

This merges the subject and the background image and saves the result as a new 6M (2816×2112) image.

NOTE

- Performing a delete or format operation will not delete the built-in subjects.
- There will be some deterioration in the quality of an image created by the above operation.

Blurring a Playback Image (Blur Effect)

Procedure

[▶] (PLAY) → Snapshot Screen → [MENU] → "PLAY" Tab → Blur Effect

1. **Use [▲], [▼], [◀], and [▶] to select the center of the circle to define the area to be left unblurred, and then press [MENU].**

2. **Use [▲] and [▼] to change the size of the circle.**

- The blur effect will be applied to the part of the image outside the circle.
- To return to step 1 and select a different center point, press [MENU] again.

3. **After selecting the center point and the size of the unblurred area, press [SET].**

4. **Use [▲] and [▼] to select the blur level you want, and then press [SET].**

This will apply the blur effect and save the result as a new image.

Auto Image Orientation Detection and Rotation (Auto Rotate)

Procedure

[▶] (PLAY) → [MENU] → "PLAY" Tab → Auto Rotate

On	Rotates the displayed image in accordance with the camera orientation when the image was recorded.
Off	Images not rotated automatically.

This setting can be used to configure the camera to display playback images in the same orientation as the camera when the image was shot.

- Auto image rotation will not be performed during movie playback, while the image menu is displayed, and for some functions.

Rotating an Image (Rotation)

Procedure

[▶] (PLAY) → Snapshot Screen → [MENU] → "PLAY" Tab → Rotation

1. **Use [▲] and [▼] to select "Rotation" and then press [SET].**
Each press of [SET] will rotate the displayed image 90 degrees left.

2. **When the displayed image is at the orientation you want, press [MENU].**

NOTE

- Note that this procedure does not actually change the image data. It simply alters how the image is displayed on the camera's monitor screen.
- An image that has been protected or zoomed cannot be rotated.
- The original (unrotated) version of the image will be displayed on the image menu screen.

Selecting Images for Printing (DPOF Printing)

Procedure

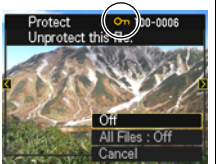
[▶] (PLAY) → Snapshot Screen → [MENU] → "PLAY" Tab → DPOF Printing

See page 75 for details.

Protecting a File Against Deletion (Protect)

Procedure

[▶] (PLAY) → [MENU] → "PLAY" Tab → Protect

On	Protects specific files. ①Use [◀] and [▶] to scroll through the files until the one you want to protect is displayed. ②Use [▲] and [▼] to select "On" and then press [SET]. An image that is protected is indicated by the 🔑 icon. ③To protect other files, repeat steps 1 and 2. To exit the protect operation, press [MENU]. To unprotect a file, select "Off" instead of "On" in step 2 above. 
All Files: On	Protects all files. ①Use [▲] and [▼] to select "All Files: On" and then press [SET]. ②Press [MENU]. To unprotect all files, select "All Files: Off" instead of "All Files: On" in step 1 above.

IMPORTANT!

- Note that even if a file is protected, it will be deleted if you perform the format operation (page 95).

Resizing a Snapshot (Resize)

Procedure

[▶] (PLAY) → Snapshot Screen → [MENU] → "PLAY" Tab → Resize

You can reduce the size of a snapshot and save the result as a separate snapshot. The original snapshot is also retained. You can select resize an image to one of three image sizes: 10M, 5M, VGA.

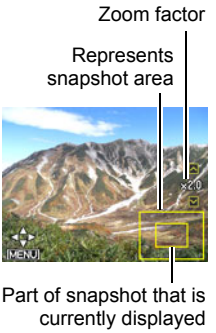
- Resizing a snapshot will create an image with an aspect ratio of 4:3.
- The recording date of the resized version of the snapshot will be the same as the recording date of the original snapshot.

Cropping a Snapshot (Trimming)

Procedure

[▶] (PLAY) → Snapshot Screen → [MENU] → "PLAY" Tab → Trimming

You can crop a snapshot to trim parts you do not need, and save the result in a separate file. The original snapshot is also retained.



1. **Use [▲] and [▼] to zoom the image to the size you want.**

2. **Press [MENU].**

3. **Use [▲], [▼], [◀], and [▶] to select the area you want to extract.**
   - Pressing [MENU] again returns to the zoom screen in step 1.

4. **After you display area you want to extract, press [SET].**
   - The image produced by a trimming operation will have an aspect ratio of 4:3.
   - The recording date of the cropped image will be the same as the recording date of the original snapshot.

Copying Files (Copy)

Procedure

[▶] (PLAY) → [MENU] → "PLAY" Tab → Copy

Files can be copied from the camera's built-in memory to a memory card or from a memory card to built-in memory.

Built-in → Card	Copies all files from built-in camera memory to a memory card. This option copies all the files in built-in camera memory. It cannot be used to copy a single file.
Card → Built-in	Copies a single file on the memory card to camera built-in camera memory. Files are copied to the folder in built-in memory whose name has the largest serial number. ①Use [◀] and [▶] to select the file you want to copy. ②Use [▲] and [▼] to select "Copy" and then press [SET].

NOTE

- You can copy snapshots or movies you recorded with this camera.

Selecting Display Information (Information)

Procedure

[▶] (PLAY) → [MENU] → "PLAY" Tab → Information

Selecting "On" displays settings when shooting, current date and time, and other information.

Connecting the Camera with a Smartphone (Wireless LAN)

Establishing a Connection between a Smartphone and Your Camera

After installing EXILIM Link on a smartphone (or tablet computer) you can select snapshot and/or movie files in camera memory and send them to a smartphone. You can select up to 99 files, totaling no more than 1500MB, for a single send.

- Search the EXILIM Link app on Google Play (Android) or App Store (iOS) and install it on your smartphone (or tablet computer).

IMPORTANT!

- Never use wireless LAN functions inside an aircraft or anywhere else where such operation is restricted.

NOTE

- Note that using wireless LAN functions requires more battery power usage than normal. Make sure that the camera battery is sufficiently charged before starting a wireless LAN operation.
- The operating range depends on the local communication environment and on the type of smartphone you are connected to.

■ App operation guarantees

No guarantees are made concerning the ability to operate the EXILIM Link app on any particular smartphone or tablet.

IMPORTANT!

- For information about operating system version supported by the app, check the information on Google Play or the App Store.
- App functions and the required operating environment are subject to change without notice.

Installing the EXILIM Link App on Your Smartphone

■ **Android terminal**

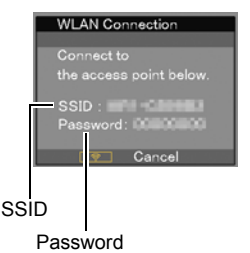
1. **Open “Google Play”.**
2. **In the search field, type “EXILIM Link”.**
3. **Install EXILIM Link.**

■ **iPhone**

1. **Open “App Store”.**
2. **In the search field, type “EXILIM Link”.**
3. **Install EXILIM Link.**

Sending a Snapshot or Movie File from Camera Memory to a Smartphone

1. **Turn on the camera, and then press [ ] (Wi-Fi).**
2. **For the smartphone Wi-Fi setting, input the camera SSID and password.**
   This will connect the smartphone to the camera.
   - The password can be changed using “WLAN password” (page 88).
   - What you need to do to establish a wireless LAN connection depends on the type of smartphone you are using. For details about how to establish a wireless LAN connection see the user documentation that comes with your smartphone.



3. **On your smartphone, start up the EXILIM Link app.**
4. **On the smartphone, tap “Connection Starting”.**
   The smartphone display shows a list of images stored in camera memory.
   - If this is the first time you started up the app, its terms of use will appear on the smartphone screen. Read the terms and then tap “Agree”.
5. **Tap the images of the files you want to have sent to the smartphone.**
6. **After selecting the images of all of the files you want to send to the smartphone, touch “ ”.**
   This will send the images you selected to the smartphone. You can view the sent images with “ ”.

IMPORTANT!

- Some smartphone models may not be able to play back movie files.
- Depending on your smartphone model, its operating system version, and/or its remaining storage capacity can cause failure of a movie or snapshot save operation. After send operation, perform the required operation on your smartphone to ensure that the movie or snapshot was saved properly.
- Viewing a movie received on an Android terminal:
  Note that movies are not displayed by Gallery. Movies are stored in a folder named “EXILIM Link”. A separate movie player is required to playback movies (whose files have the file name extension MOV). Depending on your movie player, you may not be able to playback movies and/or audio.
- Note that the wireless LAN connection between the camera and smartphone is maintained even while the EXILIM Link app is not running on the smartphone or when the app is running in the background. Leaving a wireless LAN connection in effect will shorten camera battery life and cause the camera to become warm. Shut down the EXILIM Link app and turn off the camera to terminate the wireless LAN connection whenever you are not using it.
- Using the smartphone’s Wi-Fi setting screen to terminate a wireless LAN connection will cause the camera to enter connection standby. If no connection is established within three minutes, the camera will return to the state it was in before the LAN connection was established.

NOTE

- Note that after changing the wireless LAN password on the camera, you will also need to change the Wi-Fi settings of the smartphone.
  – iPhone:
    Tap the right arrow of the field where the SSID of the camera is displayed in the Wi-Fi settings to delete network settings. After deleting, select the camera SSID again and input the new password.
  – Android terminal:
    Tap the field where the SSID of the camera is displayed in the Wi-Fi settings and select Forget. Select the camera SSID again and input the new password.

Resizing Snapshots before Sending Them to a Smartphone (Resize before send)

Procedure

[MENU] → "Set Up" Tab → Resize before send

This feature can be use to resize snapshots before they are sent to a smartphone using EXILIM Link.

3M	Images are converted to 3M size before being sent. • If an original image is 3M size or smaller, it is sent without resizing.
Off	Images are sent in the size they were originally recorded.

Printing

Printing Snapshots

Professional Print Service*

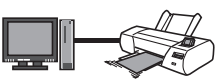
You can take a memory card that contains the images you want to print to a professional print service and have them printed.

Printing on a Home Printer*

You can use a printer equipped with a memory card slot to print images directly from a memory card. For details, see the user documentation that comes with your printer.

Printing with a Computer

After transferring the images to your computer, use commercially available software to print.



* You can specify which images you want to print, the number of copies, and date stamp settings before printing (page 75).

Using DPOF to Specify Images to be Printed and the Number of Copies

■ Digital Print Order Format (DPOF)

DPOF is a standard that allows you to include image type, number of copy, and time stamp on/off information on the memory card with the images. After configuring settings, you can use the memory card to print on a home printer that supports DPOF or take the memory card to a professional print service.

- Whether or not you will be able to use DPOF settings for printing depends on the printer you are using.
- Some professional print services may not support DPOF.

■ Configuring DPOF Settings Individually for Each Image

Procedure

[▶] (PLAY) → Snapshot Screen → [MENU] → "PLAY" Tab → DPOF Printing → Select images

1. **Use [◀] and [▶] to scroll through the files until the image you want to print is displayed.**

2. **Use [▲] and [▼] to specify the number of copies.**

You can specify a value up to 99. Specify 00 if you do not want to print the image.

- If you want to include the date in the images, press [●] (Movie) so "Date stamping On" is shown for date stamping.
- Repeat steps 1 and 2 to configure settings for other images, if you want.

3. **Press [SET].**

■ Configuring the Same DPOF Settings for All the Images

Procedure

[▶] (PLAY) → Snapshot Screen → [MENU] → "PLAY" Tab → DPOF Printing → All images

1. **Use [▲] and [▼] to specify the number of copies.**

You can specify a value up to 99. Specify 00 if you do not want to print the image.

- If you want to include the date in the images, press [●] (Movie) so "Date stamping On" is shown for date stamping.

2. **Press [SET].**

DPOF settings are not cleared automatically after printing is complete.

The next DPOF print operation you execute will be performed using the last DPOF settings you configured for the images. To clear DPOF settings, specify "00" for the number of copies of all images.

Tell your print service about your DPOF settings!

If you take a memory card to a professional print service, be sure to tell them that it includes DPOF settings for the images to be printed and the number of copies. If you don't, the print service may print all the images without regard to your DPOF settings, or they may ignore your date stamp setting.

■ Date Stamping

You can use one of the following three methods to include the recording date in the printout of an image.

Configuring camera settings	
	Configure DPOF settings (page 75). You can turn date stamping on and off each time you print. You can configure settings so some images include the date stamp and some don't.
	Configure the Camera's Time Stamp setting (page 91). • The camera's Time Stamp setting imprints the date into a snapshot when you shoot it, so the date is always included when you print. It cannot be deleted. • Do not turn on DPOF date stamping for an image that includes a date stamped with the camera's Time Stamp function. Doing so can cause the two stamps to be overprinted.
Configuring computer settings	
	You can use commercially available image management software to date stamp images.
Professional print service	
	Request date stamping when ordering prints from a professional print service.

■ Standards Supported by the Camera

- Exif Print
  Printing on a printer that supports Exif Print uses information about shooting conditions recorded with the image to enhance printed image quality. Contact your printer manufacturer for information about models that support Exif Print, printer upgrades, etc.

Using the Camera with a Computer

Things you can do using a computer...

You can perform the operations described below while the camera is connected to a computer.

Save images to a computer and view them there		• Save images and view them manually (USB connection) (pages 79, 83).
Play back and edit movies		• You can play back movies (pages 82, 85). • To edit movies, use commercially available software as required.

The procedures you need to perform are different for Windows and the Macintosh.

- Windows users should refer to “Using the Camera with a Windows Computer” on page 79.
- Macintosh users should refer to “Using the Camera with a Macintosh” on page 83.

Using the Camera with a Windows Computer

When you want to do this:	Operating System Version	Required Software	See page:
Save images to a computer and view them there manually	Windows 8.1, Windows 8, Windows 7, Windows Vista	Installation not required.	79
Play movies	Windows 8.1, Windows 8, Windows 7, Windows Vista	QuickTime 7 or higher • You need to download QuickTime 7 on the Web if you want to use it.	82

Viewing and Storing Images on a Computer

You can connect the camera to your computer in order to view and store images (snapshot and movie files).

Never use your computer to modify, delete, move, or rename any image files that are in the camera's built-in memory or on its memory card.
Doing so can cause problems with the camera's image management data, which will make it impossible to play back images on the camera and can drastically alter remaining memory capacity. Whenever you want to modify, delete, move, or rename an image, do so only on images that are stored on your computer.

IMPORTANT!

- Never unplug the USB cable, or operate the camera while viewing or storing images. Doing so can cause data to become corrupted.

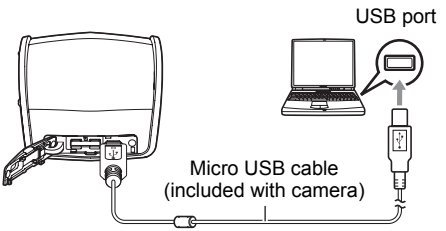
NOTE

- You also can use your computer's card slot (if it has one) or a commercially available card reader to access image files directly from the camera's memory card. For details, see the user documentation that comes with your computer.

■ To connect the camera to your computer and save files

1. Turn off the camera and then use the micro USB cable that comes with the camera to connect it to your computer.

- For details about connecting to the camera and precautions when connecting, see page 19.



2. Press [⏻] (Power) to turn on the camera.

When you turn on the camera, check to make sure that the color of its back lamp changes from red to green or amber (page 20).

- The first time you connect the camera to your computer with the USB cable, an error message may appear on your computer. If this happens, disconnect and then reconnect the USB cable.
- Charging continues even if the camera is turned on.

3. Windows 8.1, Windows 8 users: Click “Desktop” and then “Explorer”.
Windows 7, Windows Vista users: Click “Start” and then “Computer”.

4. Double-click “Removable Disk”.

- Your computer recognizes the memory card loaded in the camera (or built-in memory if there is no card) as a removable disk.

5. Right-click the “DCIM” folder.

6. On the shortcut menu that appears, click “Copy”.

7. Windows 8.1, Windows 8 users: Click “Documents”.
Windows 7, Windows Vista users: Click “Start” and then “Documents”.

- If you already have a “DCIM” folder in “Documents”, the next step will overwrite it. If you want to keep the existing “DCIM” folder, you need to change its name or move it to a different location before performing the next step.

8. **Windows 8.1, Windows 8 users: On the “Documents” menus, click “Home” and then “Paste”.**
Windows 7, Windows Vista users: On the “Documents” menu, click “Organize” or “Edit”, and then “Paste”.
This will paste the “DCIM” folder (and all the image files it contains) into your “Documents” folder. You now have a copy of the files that are in camera memory on your computer.

9. **After you finish copying images, disconnect the camera from the computer.**
After confirming that the back lamp is not flashing red, disconnect the USB cable.

■ To view images you copied to your computer

1. **Double-click the copied “DCIM” folder to open it.**

2. **Double-click the folder that contains the images you want to view.**

3. **Double-click the image file you want to view.**

- For information about file names, see “Memory Folder Structure” on page 87.
- An image that was rotated on the camera will be displayed on your computer screen in its original (unrotated) orientation.
- Viewing CS images on a computer will individually display the component images in the group. CS images cannot be viewed as a group on a computer.

Playing Movies

To play back a movie, first copy it to your computer and then double-click the movie file. Some operating systems may not be able to play back movies. If this happens, you need to install separately available software.

- If you are unable to play back movies, go to the URL below to download QuickTime 7 and install it on your computer.
  http://www.apple.com/quicktime/

■ Minimum Computer System Requirements for Movie Playback

The minimum system requirements described below are necessary to play back movies recorded with this camera on a computer.

Operating System : Windows 8.1, Windows 8, Windows 7, Windows Vista
CPU : Image Quality “FHD”:
Core 2 Duo 3.0 GHz or higher
Image Quality “STD”:
Pentium 4 3.2 GHz or higher
Required Software : QuickTime 7 or higher

- The above are recommended system environments. Configuring one of these environments does not guarantee proper operation.
- Certain settings and other installed software may interfere with proper playback of movies.

■ Movie Playback Precautions

- Be sure to move the movie data to the hard disk of your computer before trying to play it. Proper movie playback may not be possible for data accessed over a network, from a memory card, etc.
- Proper movie playback may not be possible on some computers. If you experience problems, try the following.
  – Try recording movies with a quality setting of “STD”.
  – Quit any other applications you have running, and stop resident applications.

Using the Camera with a Macintosh

When you want to do this:	Operating System Version	Required Software	See page:
Save images to your Macintosh and view them there manually	OS X	Installation not required.	83
Save images to your Macintosh automatically/Manage images	OS X	iPhoto, which comes bundled with some Macintosh products.	–
Play movies	OS X 10.5 or higher	QuickTime Player (installed on computer)	85

Connecting the Camera to Your Computer and Saving Files

Never use your computer to modify, delete, move, or rename any image files that are in the camera's built-in memory or on its memory card.
Doing so can cause problems with the camera's image management data, which will make it impossible to play back images on the camera and can drastically alter remaining memory capacity. Whenever you want to modify, delete, move, or rename an image, do so only on images that are stored on your computer.

IMPORTANT!

- Never unplug the USB cable, or operate the camera while viewing or storing images. Doing so can cause data to become corrupted.
- The camera does not support operation with Mac OS X 10.0 to 10.4. Operation is supported with Mac OS 10.5 to 10.9 (using the OS standard USB driver) only.

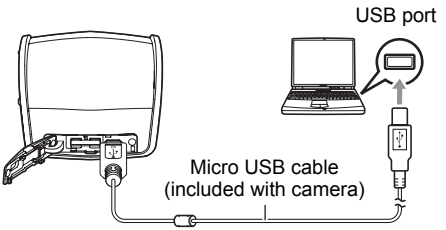
NOTE

- You also can use your computer's card slot (if it has one) or a commercially available card reader to access image files directly from the camera's memory card. For details, see the user documentation that comes with your computer.

■ To connect the camera to your computer and save files

1. Turn off the camera and then use the micro USB cable that comes with the camera to connect it to your Macintosh.

- For details about connecting to the camera and precautions when connecting, see page 19.



2. Press [⏻] (Power) to turn on the camera.

When you turn on the camera, check to make sure that the color of its back lamp changes from red to green or amber (page 20). In this mode, your Macintosh recognizes the memory card loaded in the camera (or the camera's built-in memory if it does not have a memory card loaded) as a drive. The appearance of the drive icon depends on the Mac OS version you are using.

- The first time you connect the camera to your Macintosh with the USB cable, an error message may appear on your computer. If this happens, disconnect and then reconnect the USB cable.
- Charging continues even if the camera is turned on.

3. Double-click the camera's drive icon.

4. Drag the "DCIM" folder to the folder to which you want to copy it.

5. After the copy operation is complete, drag the drive icon to Trash.

6. Disconnect the camera from the computer.

After confirming that the back lamp is not flashing red, disconnect the USB cable.

■ To view copied images

1. Double-click the camera's drive icon.

2. Double-click the "DCIM" folder to open it.

3. Double-click the folder that contains the images you want to view.

4. Double-click the image file you want to view.

- For information about file names, see "Memory Folder Structure" on page 87.
- An image that was rotated on the camera will be displayed on your Macintosh screen in its original (unrotated) orientation.

Playing a Movie

To play back a movie, first copy it to your Macintosh and then double-click the movie file.

■ Minimum Computer System Requirements for Movie Playback

The minimum system requirements described below are necessary to play back movies recorded with this camera on a computer.

Operating System : Mac OS X 10.5 or higher

Required Software : QuickTime Player (installed on computer)

- The above are recommended system environments. Configuring one of these environments does not guarantee proper operation.
- Certain settings and other installed software may interfere with proper playback of movies.

■ Movie Playback Precautions

Proper movie playback may not be possible on some Macintosh models. If you experience problems, try the following.

– Change the movie image quality setting to "STD".

– Shut down other applications that are running.

IMPORTANT!

- Be sure to move the movie data to the hard disk of your Macintosh before trying to play it. Proper movie playback may not be possible for data accessed over a network, from a memory card, etc.

Files and Folders

The camera creates a file and saves it each time you shoot a snapshot, record a movie, or perform any other operation that stores data. Files are grouped by storing them in folders. Each file and folder has its own unique name.

- For details about how folders are organized in memory, see “Memory Folder Structure” (page 87).

Name and Maximum Number Allowed	Example
File	
Each folder can contain up to 9999 files named CIMG0001 through CIMG9999. The extension on the file name depends on the file type.	26th file name: CIMG0026.JPG Extension Serial number (4 digits)
Folders	
Folders are named from 100CASIO to 999CASIO. There can be up to 900 folders in memory.	100th folder name: 100CASIO Serial number (3 digits)

- You can view folder and file names on your computer. For details about how file names are displayed on the camera’s monitor screen, see page 11.
- The total number of folders and files allowed depends on the image size and quality, and capacity of the memory card being used for storage.

Memory Card Data

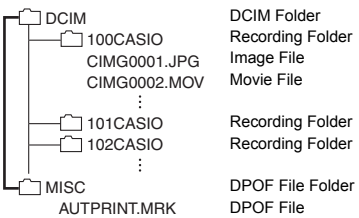
The camera stores images you shoot in accordance with the Design Rule for Camera File System (DCF).

■ About DCF

The following operations are supported for DCF-compliant images. Note, however, that CASIO makes no performance guarantees concerning these operations.

- Transferring this camera's DCF-compliant images to another manufacturer's camera and view them.
- Printing this camera's DCF-compliant images on another manufacturer's printer.
- Transferring another camera's DCF-compliant images to this camera and view them.

■ Memory Folder Structure



■ Supported Image Files

- Image files shot with this camera
- DCF-compliant image files

This camera may not be able to display an image, even if it is DCF-compliant. When displaying an image recorded on another camera, it may take a long time for the image to appear on this camera's monitor screen.

■ Built-in Memory and Memory Card Data Handling Precautions

- Whenever copying memory contents to your computer, you should copy the DCIM folder and all of its contents. A good way to keep track of multiple DCIM copies of the DCIM folders is to change its name to a date or something similar after you copy it to your computer. If you later decided to return the folder to the camera, however, be sure to change its name back to DCIM. The camera is designed to recognize only a root file with the name DCIM. Note the camera also will not be able to recognize the folders inside the DCIM folder unless they have the names they originally had when you copied them from the camera to your computer.
- Folders and files must be stored in accordance with the "Memory Folder Structure" shown on page 87 in order for the camera to be able to recognize them correctly.

Other Settings (Set Up)

This section explains menu items that you can use to configure settings and perform other operations in both the REC mode and PLAY mode.

See the following for more information.
– REC Menu (page 47)
– PLAY Menu (page 63)

Changing the Menu Screen Color (Menu Color)

Procedure

[MENU] ⟶ "Set Up" Tab ⟶ Menu Color

Use this procedure to select black, pink, or white as the menu color on the monitor screen.

- The text color will also change in accordance with the menu color.

Resizing Snapshots before Sending Them to a Smartphone (Resize before send)

Procedure

[MENU] ⟶ "Set Up" Tab ⟶ Resize before send

See page 74 for details.

Changing the Camera Password for Wireless LAN Connection (WLAN password)

Procedure

[MENU] ⟶ "Set Up" Tab ⟶ WLAN password

Use procedure to change the password you used when establishing a wireless LAN connection between the camera and a smartphone.

1. **Use [◀] and [▶] to move the cursor to the password digit you want to change.**

2. **Use [▲] and [▼] to change the currently selected digit.**

3. **When the password is the way you want, move the cursor to "Apply" and then press [SET]**

Configuring Camera Sound Settings (Sounds)

Procedure

[MENU] → "Set Up" Tab → Sounds

Startup	Specifies the startup sound. Sound 1 - 5: Built-in sounds (1 through 5) Off: Sound off
Half Shutter	
Shutter	
Operation	
Operation	Specifies the sound volume.
Play	Specifies the volume of movie audio output.

- Setting a volume level of 0 mutes output.

Configuring a Startup Image (Startup)

Procedure

[MENU] → "Set Up" Tab → Startup

Display the image you want to use as your startup image and then select "On".

- The startup image does not appear when you turn on the camera by pressing [▶] (PLAY).
- You can specify a snapshot you recorded as the startup image, or you can use the special startup image provided in the camera's built-in memory.
- Formatting built-in memory (page 95) will delete the current startup image setting.

Specifying the File Name Serial Number Generation Rule (File No.)

Procedure

[MENU] → "Set Up" Tab → File No.

Use the following procedure to specify the rule that governs generation of the serial number used in file names (page 86).

Continue	Tells the camera to remember the last used file number. A new file will be named using the next sequential number, even if files are deleted or if a blank memory card is loaded. If a memory card is loaded and that card already has files stored on it and the largest sequential number in the existing file names is greater than the largest sequential number remembered by the camera, numbering of new files will start from the largest sequential number in the existing file names plus 1.
Reset	Restarts the serial number from 0001 whenever all files are deleted or when the memory card is replaced with a blank one. If a memory card is loaded and that card already has files stored on it, numbering of new files will start from the largest sequential number in the existing file names number plus 1.

Configuring World Time Settings (World Time)

Procedure

[MENU] → "Set Up" Tab → World Time

You can use the World Time screen to view the current time in a zone that is different from your Home City when you go on a trip, etc. World Time displays the current time in 162 cities in 32 time zones around the globe.

1. **Use [▲] and [▼] to select "Destination" and then press [▶].**

- To change the geographic area and city for the time where you normally use the camera, select "Home".

2. **Use [▲] and [▼] to select "City" and then press [▶].**

- To change the "Destination" setting to summer time, use [▲] and [▼] to select "DST" and then select "On". Summer time is used in some geographical areas to advance the current time setting by one hour during the summer months.

3. **Use [▲], [▼], [◀], and [▶] to select the geographic area you want and then press [SET].**

4. **Use [▲] and [▼] to select the city you want and then press [SET].**

5. **Press [SET].**

IMPORTANT!

- Before configuring World Time settings, make sure that the Home City setting is the place where you live or normally use the camera. If it isn't, select "Home" on the screen in step 1 and configure the Home City, date, and time settings as required (page 92).

Time Stamping Snapshots (Timestamp)

Procedure

[MENU] → "Set Up" Tab → Timestamp

You can configure the camera to stamp the recording date only, or date and time in the lower right corner of each snapshot.

Example: July, 10, 2016, 1:25 p.m.

Date	2016/7/10
Date & Time	2016/7/10 1:25pm
Off	No stamping of date and/or time

- Once date and time information is stamped into a snapshot, it cannot be edited or deleted.
- Even if you do not stamp the date and/or time with Timestamp, you can do so later using the DPOF function or some printing application (page 77).

Setting the Camera's Clock (Adjust)

Procedure

[MENU] → "Set Up" Tab → Adjust

[▲] [▼]	Change the setting at the cursor location
[◀] [▶]	Move the cursor between settings
[●] (Movie)	Toggles between 12-hour and 24-hour format

When the date and time settings are what you want, press [SET] to apply them.

- You can specify a date from 2001 to 2049.
- Be sure to select your Home City (page 90) before setting the time and date. If you set the time and date while the wrong city is selected for your Home City, the times and dates of all of the World Time cities (page 90) will be wrong.

Specifying the Date Style (Date Style)

Procedure

[MENU] → "Set Up" Tab → Date Style

You can select from among three different styles for the date.

Example: July, 10, 2016

YY/MM/DD	16/7/10
DD/MM/YY	10/7/16
MM/DD/YY	7/10/16

Specifying the Display Language (Language)

Procedure

[MENU] → "Set Up" Tab → Language

■ Specify the display language you want.

①Select the tab on the right.
②Select "Language".
③Select the language you want.

- Camera models sold in certain geographic areas may not support display language selection.

Configuring Sleep State Settings (Sleep)

Procedure

[MENU] → "Set Up" Tab → Sleep

This feature turns off the monitor screen and lights the back lamp (green) whenever no camera operation is performed for a preset period of time. Press any button to turn the monitor screen back on.

Trigger Time Settings: 30 sec, 1 min, 2 min, Off (Sleep is disabled while "Off" is selected.)

- Sleep is disabled under any of the following conditions.
  – In the PLAY mode
  – While the camera is connected to a computer or other device
  – During movie recording and playback
- When both sleep and Auto Power Off are turned on, Auto Power Off takes priority.

Configuring Auto Power Settings (Auto Power Off)

Procedure

[MENU] → "Set Up" Tab → Auto Power Off

Auto Power Off turns off the camera whenever no camera operation is performed for a preset amount of time.

Trigger Time Settings: 1 min, 2 min, 5 min (The trigger time is always 5 minutes in the PLAY mode.)

- Auto Power Off is disabled under any of the following conditions.
  - While the camera is connected to a computer or other device
  - During a slideshow
  - During movie recording and playback

Configuring [▶] Setting (PLAY)

Procedure

[MENU] → "Set Up" Tab → PLAY

Power On	Camera turns on whenever [▶] (PLAY) is pressed.
On/Off	Camera turns on or off whenever [▶] (PLAY) is pressed.
Disable	Camera does not turn on or off whenever [▶] (PLAY) is pressed.

- With "On/Off", the camera turns off when you press [▶] (PLAY) in the PLAY mode.
- When "Power On" or "On/Off" is enabled, you can turn on the camera by holding down [▶] (PLAY) until the back lamp lights green momentarily.

Formatting Built-in Memory or a Memory Card (Format)

Procedure

[MENU] → "Set Up" Tab → Format

If a memory card is loaded in the camera, this operation will format the memory card. It will format built-in memory if no memory card is loaded.

- The format operation will delete all contents on the memory card or in built-in memory. It cannot be undone. Make sure you do not need any data currently on the card or in built-in memory before you format it.
- Formatting built-in memory will delete the following data.
  – Protected images
  – Startup screen
- Formatting a memory card will delete the following data.
  – Protected images
- Make sure the camera's battery is sufficiently charged before starting a formatting operation. Formatting may not be performed correctly and the camera may stop operating normally if the camera powers down while formatting is in progress.
- Never open the battery cover while formatting is in progress. Doing so can cause the camera to stop operating normally.

Resetting the Camera to Factory Defaults (Reset)

Procedure

[MENU] → "Set Up" Tab → Reset

See page 112 for details about the camera's factory default settings.
The settings below are not reset.
WLAN password, World Time settings, clock settings, date style, screen language

Appendix

Safety Precautions

⚠ DANGER

This symbol indicates information that, if ignored or applied incorrectly, creates the danger of death or serious personal injury.

⚠ WARNING

This indication stipulates matters that have the risk of causing death or serious injury if the product is operated incorrectly while ignoring this indication.

⚠ CAUTION

This indication stipulates matters that have the risk of causing injury as well as matters for which there is the likelihood of occurrence of physical damage only if the product is operated incorrectly while ignoring this indication.

Symbol Examples

This circle with a line through it (⃠) means that the indicated action must not be performed. Indications within or nearby this symbol are specifically prohibited. (The example at left indicates that disassembly is prohibited.)

The black dot (●) means that the indicated action must be performed. Indications within this symbol are actions that are specifically instructed to be performed. (The example at left indicates that the power plug must be unplugged from the electrical socket.)

⚠ DANGER

■ Rechargeable Battery

- To charge the battery, use only the method specifically described in this manual. Attempting to charge the battery by an unauthorized means creates the risk of battery overheating, fire, and explosion.
- Do not expose or immerse the battery in fresh water or salt water. Doing so can damage the battery, and cause deterioration of its performance and loss of service life.
- The battery is intended for use with a CASIO Digital Camera only. Use with any other device creates the risk of the battery damage, or deterioration of battery performance and service life.

⚠ DANGER

- Failure to observe any of the following precautions creates the risk of battery overheating, fire, and explosion.
  - Never use or leave the battery near open flame.
  - Do not expose the battery to heat or fire.
  - Make sure the battery is oriented correctly when charging it.
  - Never carry or store the battery together with items that can conduct electricity (necklaces, pencil lead, etc.).
  - Never disassemble the battery, pierce it with a needle, or expose it to strong impact (hit it with a hammer, step on it, etc.), and never apply solder to it. Never place the battery into a microwave oven, dehumidifier, high-pressure generating device, etc.
  - Never remove the outer sticker from the battery.
- Should you ever notice leakage, strange odor, heat generation, discoloration, deformation, or any other abnormal condition while using, charging, or storing a battery, immediately remove it from the camera and keep it away from open flame. Also, do not use the affected battery after the abnormal symptoms disappear.
- Do not use or leave the battery under direct sunlight, in an automobile parked in the sun, or in any other area subject to high temperatures. Doing so can damage the battery, and cause deterioration of its performance and loss of service life. Also, these conditions can cause the battery to swell to the point that you may not be able to remove it.
- Battery fluid can damage your eyes. Should battery fluid get into your eyes accidentally, immediately rinse them with clean tap water and then consult a physician.

⚠ WARNING

■ Smoke, abnormal odor, overheating, and other abnormalities

- Continued use of the camera while it is emitting smoke or strange odor, or while it is overheating creates the risk of fire and electric shock. Immediately perform the following steps whenever any of the above symptoms are present.
  1. Turn off the camera.
  2. If you are using the USB-AC adapter to power the camera, unplug the power plug from the power outlet. Also, remove the battery from the camera, taking care to protect yourself against burn injury.
  3. Contact your retailer or nearest CASIO authorized service center.

■ Keep Away From Fire

- Never expose the camera to fire, which can cause it to explode and creates the risk of fire and personal injury.

■ Avoid Use While In Motion

- Never use the camera to record or play back images while operating an automobile or other vehicle, or while walking. Looking at the monitor while in motion creates the risk of serious accident.

■ LED Light

- Never use the LED light while it is pointed in the direction of a person operating a motor vehicle. Doing so can interfere with the driver's vision and create the risk of accident.

■ USB-AC Adapter

- Misuse of USB-AC adapter creates the risk of fire and electric shock. Be sure to observe the following precautions.
  – Use only the specified USB-AC adapter.
  – Never use the USB-AC adapter with another device.
  – Use a power outlet that matches the power supply specified for the USB-AC adapter.
  – Never plug the USB-AC adapter or power cord into a wall outlet that is shared by other devices, or into a shared extension cord.
  – Never locate the USB-AC adapter near a stove or other heating device.
- Misuse of the USB-AC adapter can cause them to become damaged, creating the risk of fire and electric shock. Be sure to observe the following precautions.
  – Never place heavy objects on the USB-AC adapter or subject it to direct heat.
  – Do not modify the USB-AC adapter, allow it to become damaged, or forcibly bend it.
  – Do not twist or pull on the power cord.
  – When in use, locate the cord where it will not be tripped over.

⚠ WARNING

- Never touch the power plug while your hands are wet. Doing so creates the risk of electric shock.

- Should the power cord or power plug become damage, contact your retailer or nearest CASIO authorized service center.

- Do not use the USB-AC adapter in areas where liquids* might spill on them. Liquids create the risk of fire and electric shock.
  * Liquids: Water, sports drinks, seawater, animal or pet urine, etc.

- Do not place a flower vase or any other liquid container on top of the USB-AC adapter. Water creates the risk of fire and electric shock.

- Do not touch the camera or USB-AC adapter during lightning storms.

If a power cord was included with your camera

- The power cord that comes with the camera is designed for use in the country where the camera was purchased. If you use the camera in another country, be sure to use a power cord that conforms to that country's ratings and power supply voltage. Use of an improper power cord creates the risk of fire and electric shock.

- Before going out, be sure to unplug the USB-AC adapter from the power outlet and put in a place away from objects used by animals and pets. An animal or pet chewing on the power cord can cause it short, leading to the risk of fire.

■ Water and Foreign Matter

- Water, other liquids, or foreign matter (especially metal) getting inside the camera creates the risk of fire and electric shock. Immediately perform the following steps whenever any of the above symptoms are present. Particular care is required when using the camera where it is raining or snowing, near the ocean or other body of water, or in a bathroom.
  1. Turn off the camera.
  2. If you are using the USB-AC adapter to power the camera, unplug the power plug from the power outlet. Also, remove the battery from the camera, taking care to protect yourself against burn injury.
  3. Contact your retailer or nearest CASIO authorized service center.

■ Disassembly and Modification

- Never try to take it apart or modify it in any way. Doing so creates the risk of electric shock, burn injury, and other personal injury. Be sure to leave all internal inspection, maintenance, and repair up to your retailer or nearest CASIO authorized service center.

⚠ WARNING

■ Dropping and Rough Treatment

- Continued use of the camera after it is damaged by dropping or other rough treatment creates the risk of fire and electric shock. Immediately perform the following steps whenever any of the above symptoms are present.
  1. Turn off the camera.
  2. If you are using the USB-AC adapter to power the camera, unplug the power plug from the power outlet. Also, remove the battery from the camera, taking care to protect yourself against burn injury.
  3. Contact your retailer or nearest CASIO authorized service center.

■ Memory Cards

- Memory cards are small and present a risk of accidentally being swallowed by infants and young children. Keep memory cards out of the reach of infants and young children. If a memory card is ever swallowed accidentally, contact a physician immediately.

■ Precaution when Camera is On

- Do not touch the camera for long periods while it is on. The camera becomes warm when on, and long term contact creates the risk of low-temperature burns.

■ Interference with other digital devices

- Should you notice radio interference or other problems on other devices is being caused while using this camera, stop using the wireless functions (Remote Capture, image transfer, wireless image viewing, etc.) of this camera, or turn off the camera. Use of wireless functions creates the risk of radio interference and abnormal operation of other devices.

- When in a medical facility or aircraft, comply with instructions of personnel in charge. Electromagnetic waves and other signals emitted by the camera's wireless function create the risk of accident.

- Do not use the camera's wireless function while in the vicinity of high precision digital devices or digital devices that use weak signals. Doing so can interfere with proper operation of such digital devices and create the risk of accident.

- When using the camera's wireless function, keep it away from any person wearing a pacemaker. Magnetism emitted by the camera may affect cardiac pacemakers and other medical devices. Should you ever notice any abnormality, immediately move away from the product and contact a physician.

⚠ WARNING

- On a crowded train or any other crowded location where there is the possibility of being in the vicinity of a person wearing a cardiac pacemaker, stop using the wireless functions (Remote Capture, image transfer, wireless image viewing, etc.) of this camera, or turn off the camera. Radio waves emitted by the camera's wireless function may affect pacemaker operation.

⚠ CAUTION

■ USB-AC Adapter

- Misuse of the USB-AC adapter creates the risk of fire and electric shock. Make sure you observe the following precautions.
  - Never cover the USB-AC adapter or power cord with a quilt, blanket, or other cover while it is in use, and do not use it near a heater. Doing so can interfere with heat radiation and cause the area around them to become hot.
  - Do not use detergent when cleaning the power cord, the USB-AC adapter, or the USB cable (especially the plugs and jacks).
  - Insert the power plug into the wall outlet as far as it will go.
  - Unplug the power plug from the wall outlet before leaving the camera unattended for long periods, such as when leaving on a trip, etc.
  - At least once a year, use a cloth or vacuum cleaner to clean any dust build up on the prongs of the power plug and in the area around them.
  - (Power cord included with your camera) When unplugging from the wall outlet, never pull on the power cord. Grasp the power plug and pull.

■ Rechargeable Battery

- If battery charging does not end normally within the specified charging time, stop charging anyway and contact your local CASIO authorized service center. Continued charging creates the risk of battery overheating, fire, and explosion.
- Be sure to read the user documentation that comes with the camera before using or charging the battery.
- Store batteries in a location that cannot be reached by infants and young children. When using a battery where infants and young children are present, be on guard to ensure that they do not have the chance to remove the battery from the camera.
- Do not leave batteries near areas used by pets. A pet chewing on a battery can lead to accidents caused by the battery leaking, overheating, or exploding.
- Should fluid from a battery accidentally get onto clothing or your skin, immediately rinse it off with clean tap water. Prolonged contact with battery fluid can cause skin irritation.

⚠ CAUTION

■ Connections

- Never plug any devices that are not specified for use with this camera into connectors. Connecting a non-specified device creates the risk of fire and electric shock.

■ Unstable Locations

- Never place the camera on an unstable surface, on a high shelf, etc. Doing so can cause the camera to fall, creating the risk of personal injury.

■ Locations To Be Avoided

- Never leave the camera in any of the following types of locations. Doing so creates the risk of fire and electric shock.
  - Areas subject to large amounts of humidity or dust
  - Food preparation areas or other locations where oil smoke is present
  - Near heaters, on a heated carpet, in areas exposed to direct sunlight, in a closed vehicle parked in the sun, or other areas subject to very high temperatures

■ Monitor Screen

- Do not apply strong pressure to the LCD panel surface or subject it to strong impact. Doing so can cause the display panel glass to crack and lead to personal injury.

- Should the monitor screen ever become cracked, never touch any of the liquid inside the monitor screen. Doing so creates the risk of skin inflammation.

- Should monitor screen liquid ever get into your mouth, immediately rinse your mouth out and contact your physician.

- Should monitor screen liquid ever get into your eyes or onto your skin, immediately rinse with clean water for at least 15 minutes and contact your physician.

■ Backing Up Important Data

- Always keep backup copies of important data in camera memory by transferring it to a computer or other storage device. Note that data can be deleted in the case of camera malfunction, repair, etc.

⚠ CAUTION

■ Memory Protection

- Whenever replacing the battery, be sure to follow the correct procedure as described in the documentation that comes with the camera. Incorrectly replacing the battery can result in corruption or loss of data in camera memory.

■ LED Light

- Do not fire the LED light or use other light emitting functions while the light is pointed in the direction of and too close to a person's face. Doing so creates the risk of momentary loss of eyesight.

Precautions During Use

■ Data Error Precautions

Your digital camera is manufactured using precision digital components. Any of the following creates the risk of corruption of data in camera memory.

– Removing the battery or memory card while the camera is performing some operation
– Removing the battery or memory card while the back lamp is flashing green after turning off the camera
– Disconnecting the USB cable while communication is in progress
– Shooting with a battery that quickly goes low right after it is charged
  • Shooting with a battery that quickly goes low right after it is charged can also cause camera malfunction. Replace the battery with a new one immediately.
– Other abnormal operations

Any of the above conditions can cause an error message to appear on the monitor screen (page 119). Perform the action indicated by the message that appears.

■ Operating Environment

• Operating Temperature Requirements: 0 to 40°C (32 to 104°F)
• Operating Humidity: 10 to 85% (non condensation)
• Do not place the camera in any of the following locations.
  – In an area exposed to direct sunlight, or large amounts of moisture, dust, or sand
  – Near heating or cooling devices, or in other areas subjected to extreme changes in temperature or humidity
  – Inside of a motor vehicle on a hot day, or in an area subjected to strong vibration

■ Condensation

Sudden and extreme temperature changes, such as when the camera is moved from the outdoors on a cold winter day into a warm room, can cause water droplets called “condensation” to form on the interior and the exterior of the camera, which creates the risk of malfunction. To prevent condensation from forming seal the camera in a plastic bag before changing locations. Then leave the bag sealed to allow the air inside to naturally change to the same temperature as the air in the new location. After that, remove the camera from the bag and open the battery cover for a few hours.

■ Lens

- The lens is around the center of the mirror. Do not press or strike the area around the center of the mirror with strong force.
- You may sometimes notice some distortion in certain types of images, such as a slight bend in lines that should be straight. This is due to the characteristics of lenses, and does not indicate malfunction of the camera.

■ Caring for your camera

- Finger smudges, dirt, and other foreign matter on the lens (circular frame) can interfere with proper operation of the camera. Use a blower or other means to keep the mirror free of dirt and dust, and wipe gently with a soft, dry cloth.
- To clean the camera, wipe it with a soft, dry cloth.

■ Soft Case

- Use the case for storing this camera only. Do not put anything else in the case.
- After inserting the camera into the case, be sure to secure it with the fastening tape.
- Water, sweat, cosmetics, beverages, or other similar agents can cause blotching.
- Do not wash the case. Doing so can cause deformation, discoloration, color transfer to other items, and discoloration.
- Take care when handling the case with the camera inside. Strong pressure on the outside of the case can cause camera power to turn on.

■ Old Rechargeable Battery Handling Precautions

- Insulate the positive and negative terminals with tape, etc.
- Do not peel the covering off of the battery.
- Do not try to take the battery apart.

■ Precautions when using the wireless LAN function

This product uses wireless data communication which can cause interference with or be subject to interference by other nearby devices.

Radio transmission interception

Note that the radio waves that are used to send and receive data can be intercepted by third parties.

Unauthorized access

CASIO COMPUTER CO., LTD. shall be held in no way liable for any unauthorized access and/or use of the access point equipped on this product if the product is ever lost or stolen.

Use as a wireless LAN device

Use the wireless LAN function of this product only as specifically described in this manual. Any other use is unintended use, and CASIO COMPUTER CO., LTD. shall be held in no way liable for any damages arising out of unintended use.

Magnetism, electrostatic charge, and radio interference

Do not use this product near a microwave oven or any other area where magnetism, electrostatic charge, or radio interference is generated. Radio wave reception may be poor in certain environments.
Also note that other devices using the same 2.4GHz band used by this product may cause reduced processing speeds in both devices.

Connecting to a public LAN

This product does not support wireless LAN connection over a public wireless LAN environment.

Intended Areas of Use

1) The wireless LAN functions of this camera are provided for use in the countries and geographic areas below.
   Hong Kong, Singapore, Thailand, The United Arab Emirates (UAE), Paraguay, Venezuela, Panama, Germany, Austria, France, The Netherlands, Spain, Italy, Sweden, Denmark, Slovakia, Poland, and Norway
2) Approval for use under radio regulations in the countries and geographic areas below is granted only when the camera is purchased within that particular country or geographic area.
   Taiwan, Indonesia, Malaysia, and South Korea

■ Discarding or Transferring Ownership of a Memory Card or the Camera

The format and delete functions of the camera do not actually delete files from the memory card. The original data remains on the card. Note that responsibility for the data on a memory card lies with you. The following procedures are recommended whenever you discard a memory card or the camera, or if you transfer ownership to another party.

- When discarding a memory card, either physically destroy the memory card or use commercially available data delete software to completely delete the data on the memory card.
- When transferring ownership of a memory card to another party, use commercially available data deletion software to completely delete the data on it.
- Use the format function (page 95) to completely delete the data in built-in memory before discarding or transferring ownership of the camera.

■ Other Precautions

The camera becomes slightly warm during use. This is normal and does not indicate malfunction.

■ Copyrights

Except for your own personal enjoyment, unauthorized use of snapshots or movies of images whose rights belong to others, without the permission of the right holder, is forbidden by copyright laws. In some cases, shooting of public performances, shows, exhibitions, etc. may be restricted entirely, even if it is for your own personal enjoyment. Regardless of whether such files are purchased by you or obtained for free, posting them on a website, a file sharing site, or any other Internet site, or otherwise distributing them to third parties without the permission of the copyright holder is strictly prohibited by copyright laws and international treaties. For example, uploading or distributing on the Internet images of TV programs, live concerts, music videos, etc. that were photographed or recorded by you may infringe upon the rights of others. Note that CASIO COMPUTER CO., LTD. shall not be held liable for use of this product in any way that infringes on the copyrights of others or that violates copyright laws.

The following terms, which are used in this manual, are registered trademarks or trademarks of their respective owners.

Note that trademark ™ and registered trademark ® are not used within the text of this manual.

- microSDXC Logo is a trademark of SD-3C, LLC.
- Microsoft, Windows, Windows Vista, Windows 7, Windows 8, and Windows 8.1 are registered trademarks or trademarks of Microsoft Corporation in the United States and other countries.
- Macintosh, Mac OS, QuickTime, iPhoto, and iPhone are trademarks of Apple Inc.
- Android and Google Play are trademarks or registered trademarks of Google Inc.
- App Store is a service mark of Apple Inc.
- iOS is a trademark or registered trademark of Cisco Systems, Inc. of the United States.
- Wi-Fi is a registered trademark of the Wi-Fi Alliance.
- EXILIM and EXILIM Link are registered trademarks or trademarks of CASIO COMPUTER CO., LTD.
- All other company or product names mentioned herein are registered trademarks or trademarks of their respective companies.

Any and all unauthorized copying, distribution, and transfer for commercial purposes of the software provided by CASIO for this product are prohibited.

iPerf (BSD License)

Copyright (c) The Board of Trustees of the University of Illinois
All Rights Reserved.

Iperf performance test
Mark Gates
Ajay Tirumala
Jim Ferguson
Jon Dugan
Feng Qin
Kevin Gibbs
John Estabrook
National Laboratory for Applied Network Research
National Center for Supercomputing Applications
University of Illinois at Urbana-Champaign
http://www.ncsa.uiuc.edu

Permission is hereby granted, free of charge, to any person obtaining a copy of this software (Iperf) and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimers.
Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimers in the documentation and/or other materials provided with the distribution.
Neither the names of the University of Illinois, NCSA, nor the names of its contributors may be used to endorse or promote products derived from this Software without specific prior written permission.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE CONTIBUTORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

inet_ntop, inet_pton

ISC License (ISC)
[OSI Approved License]
Copyright (c) 4-digit year, Company or Person's Name

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Power Supply

Charging

■ If the camera's back lamp starts flashing red...

- Ambient temperature or the temperature of the battery may be either too high or too low. Disconnect the USB cable and wait until temperature is within the allowable charging range before trying again.
- Battery contacts may be dirty. Wipe them with a dry cloth.
- Try connecting to a different computer USB port. Depending on the setup of your computer, you may not be able to charge the camera's battery over a USB connection.

If problems continue to occur after you perform the above steps, it could mean that the battery is faulty. Contact your nearest CASIO authorized service center.

Battery Precautions

■ Precautions during Use

- Operation provided by a battery under cold conditions is always less than operation under normal temperatures. This is due to the characteristics of the battery, not the camera.
- Charge the battery in an area where the temperature is within the range of 15°C to 35°C (59°F to 95°F). Outside this temperature range charging can take longer than normal or even fail.
- Do not tear or remove the battery outer label.
- If a battery provides only very limited operation following a full charge, it probably means the battery has reached the end of its service life. Replace the battery with a new one.

■ Storage Precautions

- Storing the battery for a long time while it is charged can cause deterioration of battery characteristics. If you do not plan to use a battery for some time, fully use up its charge before storing it.
- Always remove the battery from the camera when you are not using it. A battery left in the camera can discharge and go dead, which will require some time to charge when you need to use the camera.
- Store batteries in a cool, dry place (20°C (68°F) or lower).
- To prevent over discharging of an unused battery, fully charge it, and then load it in the camera and fully use up the charge about once every six months.

Using the Camera in another Country

■ Precautions during Use

- The bundled USB-AC adaptor is designed for operation with any power supply in the range of 100V to 240V AC, 50/60Hz. Note, however, that the shape of the power plug depends on each country or geographic area. Before taking the camera and USB-AC adaptor along on a trip, check with travel agent about the power supply requirements in your destination(s).
- Do not connect the USB-AC adaptor to a power supply through a voltage converter or similar device. Doing so can lead to malfunction.

■ Extra Batteries

- Taking along extra fully charged batteries (NP-80) is recommended while on a trip in order to avoid not being able to shoot images due to the battery going dead.

Using a Memory Card

See page 23 for information about supported memory cards and how to load a memory card.

■ Using a Memory Card

- If a memory card starts to behave abnormally during image playback, you can restore normal operation by reformatting it (page 95). However, it is recommended that you always take along multiple memory cards whenever using the camera far away from the home or office.
- As you record data to and delete data from a memory card a number of times, it loses its ability to retain data. Because of this, periodic re-formatting of a memory card is recommended.
- Electrostatic charge, electrical noise, and other phenomena can cause data to become corrupted or even lost. Make sure that you always back up important data on other media (CD-R, CD-RW, hard disk, etc.).

■ Memory Card Handling Precautions

- Certain types of memory cards can slow down processing speed. Whenever possible use an Ultra High-Speed Type memory card. Note, however, that not all operations can be guaranteed even if an Ultra High-Speed Type memory card is used. Certain movie quality settings can result in too much time being required to record data, which can result in breaks in the image and/or audio during playback. If this happens, the and will flash on the monitor screen.

Reset Initial Default Settings

The tables in this section show the initial default settings on menus that appear in the REC mode and PLAY mode when you reset the camera (page 95).

- A dash (–) indicates an item whose setting is not reset or an item for which there is no reset setting.

IMPORTANT!

- Depending on the recording mode, some of the items on the menu that appears may not be usable.

■ REC Mode

“REC” Tab

Focus	AF
Face Detection	On
CS	Off
Anti Shake	Off
L/R Key	Off

Grid	Off
Review	Off
Icon Help	On
Information	On

“Quality” Tab

Size	14M
Quality (Movie)	FHD
EV Shift	0.0
White Balance	Auto

ISO	Auto
Lighting	Off
Color Filter	Off

“Set Up” Tab

Menu Color	Black
Resize before send	3M
WLAN password	–
Sounds	Startup: Sound 1 / Half Shutter: Sound 1 / Shutter: Sound 1 / Operation: Sound 1 / Operation: ■■■□□□□ / Play: ■■■□□□□
Startup	Off
File No.	Continue

World Time	–
Timestamp	Off
Adjust	–
Date Style	–
Language	–
Sleep	1 min
Auto Power Off	2 min
PLAY	Power On
Format	–
Reset	–

■ PLAY Mode

“PLAY” Tab

Paste subject	–
Blur Effect	Standard
Auto Rotate	On
Rotation	Rotate
DPOF Printing	–

Protect	–
Resize	–
Trimming	–
Copy	–
Information	On

“Set Up” Tab

- The contents of the “Set Up” tab are the same in the REC mode and PLAY mode.

Troubleshooting

Problem	Possible Cause and Recommended Action
Power Supply	
Power does not turn on.	1)The battery may not be loaded correctly (page 16). 2)The battery may be dead. Charge the battery (page 17). If the battery goes dead soon after being charged, it means the battery has reached the end of its life and needs to be replaced. Purchase a separately available CASIO NP-80 rechargeable lithium ion battery.
The camera suddenly powers down.	1)Auto Power Off may have activated (page 94). Turn power back on. 2)The battery may be dead. Charge the battery (page 17). 3)The camera's protection function may have activated because camera temperature is too high. Turn off the camera and wait until it cools down before trying to use it again.
Power will not turn off. Nothing happens when a button is pressed.	Remove the battery from the camera and then reload it.
Charging	
The back lamp does not light red and the battery won't charge.	1)Unplug the USB cable from the camera and then plug it back in again. 2)Remove the battery from the camera and then reload it (page 17).
Image Recording	
Image is not recorded when the shutter button is pressed.	1)If the camera is in the PLAY mode, press the shutter button to enter the REC mode. 2)If the message "Memory Full" appears, transfer images to your computer, delete images you no longer need, or use a different memory card.
Auto Focus does not focus properly.	1)If the lens is dirty, clean it off. 2)The subject may not be in the center of the focus frame when you compose the image. 3)You may be moving the camera when shooting. Try shooting with Anti Shake. 4)You may be pressing the shutter button all the way without waiting for Auto Focus. Half-press the shutter button and allow enough time for Auto Focus to focus.

Problem	Possible Cause and Recommended Action
The subject is out of focus in the recorded image.	The image may not be focused properly. When composing the image, make sure the subject is located inside the focus frame.
The LED light does not light.	1)If the battery is dead, charge it (page 17). 2)LED light operation is disabled automatically whenever the camera's "Silent" setting is "On" (page 42).
Camera powers down during Self-timer countdown.	The battery may be dead. Charge the battery (page 17).
The monitor screen image is out of focus.	1)You may be using (Macro) for scenery or portraits. Use Auto Focus for scenery and portrait shots (page 49). 2)You may be trying to use Auto Focus when shooting a close-up shot. Use the (Macro) for close ups (page 49).
There is a vertical line in the monitor screen image.	Shooting a very brightly lit subject can cause a vertical band to appear in the monitor screen image. This is a CMOS phenomenon known as "vertical smear", and does not indicate malfunction of the camera. Note that vertical smear is not recorded with the image in the case of a snapshot, but it is recorded in the case of a movie.
There is digital noise in images.	1)Sensitivity may have been increased automatically for a dark subject, which increases the chance of digital noise. Use a light or some other means to illuminate the subject. 2)Shooting with a high ISO sensitivity setting or with the Lighting feature can cause an increase in digital noise. Use a light or some other means to illuminate the subject.
A recorded image was not saved.	1)Camera power may have been turned off before the save operation was complete, which will result in the image not being saved. If the battery indicator shows , charge the battery as soon as possible (page 21). 2)You may have removed the memory card from the camera before the save operation was complete, which will result in the image not being saved. Do not remove the memory card before the save operation is complete.
Though available lighting is bright, the faces of people in the image are dark.	Not enough light is reaching the subjects. Adjust EV shift to the + side (page 56).
Night shots come out bad.	Select Premium Auto as the recording mode (page 27).

	Problem	Possible Cause and Recommended Action
	Subjects are too dark when shooting images in a seashore or ski area.	Sunlight reflected by water, sand, or snow, can cause underexposure of images. Adjust EV shift to the + side (page 56).
	The image is out of focus during movie recording.	1)Focusing may not be possible because the subject is outside the focus range. Shoot within the allowable range. 2)The lens may be dirty. Clean the lens (page 105).
	I can't change the settings of menu items. Menu items for some settings are not displayed on the menu.	Depending on the recording mode, some of the items on the menu that appears may not be usable. Only the menu items whose settings can be configured (page 30) will be displayed on the menus while Premium Auto is in use.
Playback		
	The color of the playback image is different from what appears on the monitor screen when shooting.	Sunlight or light from another source may be shining directly into the lens when you are shooting. Position the camera so sunlight does not shine directly into the lens.
	Images are not displayed.	This camera cannot display non-DCF images recorded onto a memory card using another digital camera.
	Images cannot be edited (with resizing, trimming, rotation).	Note that you cannot edit the following types of snapshots. • Movies • Snapshots recorded with another camera

Problem	Possible Cause and Recommended Action
File Deletion	
A file cannot be deleted.	The file may be protected. Unprotect the file (page 68).
Wireless LAN	
I can't establish a wireless LAN connection. The wireless LAN connection is broken.	1)The camera cannot connect with a smartphone if they are too far apart from each other. 2)The smartphone may be connected with another wireless LAN. Check the smartphone's Wi-Fi settings and confirm that the camera is selected for wireless LAN connection (page 72). 3)Connection may have been lost due to interference caused by a nearby microwave oven, cordless phone, or other wireless LAN device. Move the camera away from the device causing the problem.
Other	
The wrong date and time are displayed, or the wrong date and time are being stored along with image data.	The date and time setting is off. Set the correct date and time (page 92).
The messages on the display are in the wrong language.	The wrong display language is selected. Change the display language setting (page 93).
Images cannot be transferred over a USB connection.	1)The USB cable may not be connected securely. Check all connections. 2)If the camera is not turned on, turn it on. 3)Your computer may not be able to recognize the camera if you connect via a USB hub. Always connect directly to the computer's USB port. 4)USB communication may not be possible when the battery level indicator is . Charge the battery before connecting.

Problem	Possible Cause and Recommended Action
Language selection screen appears when the camera is turned on.	1) You did not configure initial settings after purchasing the camera or the camera may have been left with a dead battery. Check the camera setup (pages 22, 93). 2) There may be a problem with the camera's memory data. If this is the case, perform the reset operation to initialize the camera's setup (page 95). After that, configure each setting. If the language selection screen does not re-appear when you turn the camera on, it means that the camera's memory management data has been restored. If the same message appears after you turn power back on, contact your retailer or a CASIO authorized service center.
There are various indicators and values on the monitor screen.	The monitor screen shows indicators and other information about shooting conditions and the image you are recording. You can disable display of indicators and values by selecting "Off" for "Information" on the menu screen (pages 54, 70).
The time and date settings configured the first time after purchasing the camera are reset to their factory defaults when remove the camera's battery.	Load the camera's battery and reconfigure the time and date settings (page 22). Do not remove the battery from the camera for at least 24 hours after configuring time and date settings. After that, the settings will not be reset if you remove the battery. • If the time and date are reset to their factory default settings when you remove the battery after it has been loaded for more than 24 hours, it could mean that the camera's setting memory is defective. Contact your retailer or a CASIO authorized service center.
Buttons are not responsive right after the power has been turned on.	With large capacity memory cards there is a delay after the power has been turned on before the buttons become responsive.

Display Messages

ALERT	The camera's protection function may have activated because camera temperature is too high. Turn off the camera and wait until it cools down before trying to use it again.
Battery is low.	Battery power is low.
Card ERROR	There is something wrong with the memory card. Turn off the camera, remove the memory card and then reload it into the camera. If this message re-appears when you turn the camera back on, format the memory card (page 95). **IMPORTANT!** • Formatting a memory card deletes all its files. Before formatting, try transferring recoverable files to a computer or some other storage device.
Communication stopped.	This message appears when the wireless LAN connection is broken for some reason during data communication between the camera and smartphone.
File could not be saved because battery is low.	Battery power is low, so an image file could not be saved.
Folder cannot be created.	You are trying to record a file while there are already 9999 files stored in the 999th folder. If you want to record more, delete files you no longer need (page 32).
LENS ERROR	This message appears and the camera turns off whenever lens performs some unexpected operation. If the same message appears after you turn power back on, contact a CASIO authorized service center or your original retailer.
Memory Full	Memory is full with images you recorded and/or files saved by editing operations. Delete files you no longer need (page 32).
Record Error	Image compression could not be performed for some reason during image data storage. Shoot the image again.
RETRY POWER ON	The lens came into contact with an obstruction while moving. The camera will turn off automatically when this message appears. Remove the obstruction and turn power back on again.
SYSTEM ERROR	Your camera system is corrupted. Contact your retailer or a CASIO authorized service center.
There are no files.	There are no files in built-in memory or on the memory card.

This card is not formatted.	The memory card loaded in the camera is not formatted. Format the memory card (page 95).
This file cannot be played.	The file you are trying to access is corrupted or is a type that cannot be displayed by this camera.
This function cannot be used.	This message will appear part way through an operation when you attempt to use a function that is not allowed in combination with another function.

Number of Snapshots/Movie Recording Time

Snapshot

Image Size (Pixels)	Approximate File Size	Built-in Memory*1 Recording Capacity	microSD Memory Card*2 Recording Capacity
14M (4320×3240)	3.24MB	7	4798
3M (2048×1536)	820KB	34	18962

Movies

Image Size/Pixels (Audio)	Approximate Data Rate (Frame Rate)	Maximum File Size	Built-in Memory*1 Recording Capacity	Maximum Recording Time with microSD Memory Card*2	File Size of 1-minute Movie	Continuous Recording Time per Movie*3
FHD 1920×1080 (Monaural)	16.6 Megabits/ second (30 frames/second)	4GB or 29 minutes	18 seconds*4	2 hours 00 minute	124.5MB	29 minutes
STD 640×480 (Monaural)	8.4 Megabits/ second (30 frames/second)		22 seconds	4 hours 00 minute	63.0MB	29 minutes

*1 Built-in memory capacity after formatting (Approx. 28.0MB)
*2 When using a 16GB microSDHC memory card (SanDisk Corporation). Number of image and recording time values depend on the memory card you are using.
*3 The allowable recording time will be shorter if the capacity of the microSD memory card you are using is smaller than the maximum size of one file.
*4 The data transfer rate of built-in memory is not sufficient for FHD movies. Whenever possible use an Ultra High-Speed Type memory card (pages 23, 46).

- Snapshot, movie recording capacity, and voice recording capacity values are approximate and intended for reference only. Actual capacity depends on image contents.
- File size and data rate values are approximate and intended for reference only. Actual values depend on the type of image being shot.
- When using a memory card with a different capacity, calculate the number of images as a percentage of 16GB.
- Each movie can be up to 29 minutes long. Movie recording stops automatically after 29 minutes of recording.

Specifications

File Format	Snapshots: JPEG (Exif Version 2.3); DCF 2.0 standard; DPOF compliant Movies: MOV format, H.264/AVC standard, IMA-ADPCM audio (monaural)
Recording Media	Built-in Memory (Image Storage Area: 28.0MB) microSD/microSDHC/microSDXC
Recorded Image Sizes	Snapshot: 14M (4320×3240), 3M (2048×1536) Movies: FHD (1920×1080), STD (640×480)
Effective Pixels	14.00 Megapixels
Imaging Element	Size: 1/2.3-inch square pixel CMOS Total Pixels: 16.76 Megapixels
Lens/Focal Distance	F5.0/f = 3.8 mm (equivalent to 21 mm in 35 mm format)
Zoom	Up to 4X when SR zoom and Digital zoom are used in combination Up to 8.4X when HD Zoom, SR Zoom and Digital zoom are used in combination (3M size)
Focusing	Contrast Detection Auto Focus • Focus Modes: Auto Focus, Macro Focus, Pan Focus, Infinity • AF Area: Spot (Intelligent AF while Premium Auto is selected.)
Approximate Focus (Snapshot) (From Lens Surface)	Auto Focus: 10 cm to ∞ (3.9" to ∞) Macro Focus: 10 cm to 50 cm (3.9" to 19.7") Pan Focus: 1.3 m to ∞ (4.3' to ∞) Infinity: ∞
Metering	Multi-pattern by imaging element
Exposure Control	Program AE
Exposure Compensation	–2.0 EV to +2.0 EV (in 1/3EV steps)
Shutter	CMOS shutter
Shutter Speed	Snapshot (Auto): 1/10 to 1/8000 second Snapshot (Premium Auto): 1 to 1/8000 second • May differ due to the camera setup.
Aperture Value	F5.0* * Value after illumination is reduced by mirror.
White Balance	Auto, Daylight, Overcast, Shade, Day White Fluorescent, Daylight Fluorescent, Tungsten, Manual WB

Sensitivity (Standard Output Sensitivity)	Snapshots: Auto, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200 equivalent Movies: Auto
LED Light	Auto, On, Off
Wireless data transfer	Standard: IEEE 802.11b/g/n Operation frequency range: 1 to 11ch Encryption: WPA2
Monitor Screen	2.7-inch TFT color LCD 460,800 dots
External connection terminal	Micro USB port (Hi-Speed USB compliance, USB charging)
Microphone	Monaural
Speaker	Monaural
Power Requirements	Rechargeable lithium ion battery (NP-80) × 1

Approximate Battery Life

All of the values provided below represent the approximate amount of time under normal temperature (23°C (73°F)) before the camera turns off. These values are not guaranteed. Low temperatures shorten battery life.

Number of snapshots (Operating Time)*1	230 shots
Actual movie recording time (FHD movie)*1	35 minutes
Approximate continuous movie recording time (FHD movies)*2	60 minutes
Continuous Playback*3	3 hours 15 minutes

- Temperature: 23°C (73°F)
- Battery: NP-80 (Rated Capacity: 700 mAh)
- Recording Medium: 16GB microSDHC memory card (SanDisk Corporation UHS-I series)

*1 In accordance with CIPA (Camera and Imaging Products Association) standards
*2 In accordance with CASIO standards
*3 One-image scroll approximately every 10 seconds

- The above values are based a new battery, starting from a full charge. Repeated charging shortens battery life.
- The above values are for reference only. They do not guarantee that the specified battery life will be attained under actual operating conditions.
- Frequency of Auto Focus usage, configured settings, the amount of time the camera is left turned on, and ambient temperature in the area where the camera is used all greatly affect recording time and number of shots values.

Power Consumption	5.0 V DC, Approximately 3.1 W
Dimensions	104.2 (W) × 60.8 (H) × 21.1 (D) mm (4.1" (W) × 2.4" (H) × 0.83" (D))
Weight	Approximately 133 g (4.7 oz) (including battery and memory card*) Approximately 117 g (4.1 oz) (excluding battery and memory card) * 16GB microSDHC memory card (SanDisk Corporation)

■ Rechargeable lithium ion battery (NP-80)

Rated Voltage	3.7 V
Rated Capacitance	700 mAh
Operating Temperature Requirements	0 to 40°C (32 to 104°F)
Dimensions	31.4 (W) × 39.5 (H) × 5.9 (D) mm (1.24" (W) × 1.56" (H) × 0.23" (D))
Weight	Approximately 15 g (0.53 oz)

■ USB-AC adaptor (AD-C53U)

Input	100 to 240 V AC, 50/60 Hz, 100 mA
Output	5.0 V DC, 650 mA
Operating Temperature Requirements	5 to 35°C (41 to 95°F)
Dimensions	53 (W) × 21 (H) × 45 (D) mm (2.1" (W) × 0.83" (H) × 1.8" (D)) (excluding projections)
Weight	Approximately 37 g (1.3 oz)

- Power cord precautions for use in Singapore
  The power cord set is not supplied. The power cord used must comply with relevant national and/or international standards.

CASIO

CASIO COMPUTER CO., LTD.
6-2, Hon-machi 1-chome
Shibuya-ku, Tokyo 151-8543, Japan

M29 MA1410-A

© 2014 CASIO COMPUTER CO., LTD.